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SELF-CARE MANAGEMENT
OF
OLDER MILITARY RETIREES

by

KATHRYN A. DILLOW

B.S.N., University of Oklahoma, 1984

A thesis submitted to the
Faculty of the Graduate School of the
University of Colorado in partial fulfillment
of the requirements for the degree of
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School of Nursing

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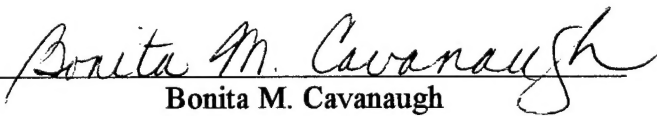
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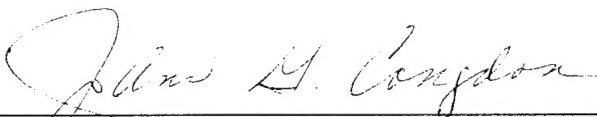
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Self-Care Management of Older Military Retirees.

Thesis directed by Assistant Professor Bonita M. Cavanaugh.

Recent changes in the Military Health Services System (MHSS) have resulted in older military retirees feeling stripped of "promised" health care benefits. Despite these changes, older military retirees remain eligible for full participation in MHSS health promotion and illness prevention programs. Current literature on self-care management of older adults is limited. No studies address the distinctive needs of older military retirees.

A descriptive survey design and Howe's (1994) Self-Care Case Management Model were used in this study. The purpose of this study was to answer the following research questions: 1) What are the self-care behaviors practiced by community-based military retirees age 65 and older? 2) Who are the suppliers of self-care information to community-based military retirees age 65 and older? 3) What self-care management tools are used by community-based military retirees age 65 and older?

Two separate interview instruments were used for data collection. The Mini-Mental State Examination (MMS) (Folstein, Folstein, & McHugh, 1975) and an interview questionnaire developed by the researcher. The interview questionnaire consisted of 56 open-ended questions with forced response sets and assessed six different dimensions of self-care. Reliability and validity were estimated for both instruments.

A convenience sample of 30 subjects was selected. Descriptive statistics and the Statistical Package for the Social Sciences (SPSS) were used to analyze data. Selected personal characteristics of the subjects were also examined.

Principle findings of the study showed older military retirees were self-reliant in caring for functional activities and mental/social conditions and relied on professional health care providers in caring for physical conditions. Self was identified as the key supplier of self-care information for functional activities and mental/social conditions. For physical

care information for functional activities and mental/social conditions. For physical conditions the key suppliers were professional health care providers. The primary tools of self-care management for functional activities and mental/social conditions were life experiences and for physical conditions they were professional health care providers' instructions.

Implications for nursing practice and nursing education were addressed. Limitations of the study were identified and recommendations for instrument refinement and further research were offered.

The form and content of this abstract are approved.

Signed: Bonita M. Cavanaugh
Faculty member in charge of thesis

DEDICATION

This thesis is dedicated to an exemplary officer who is my best friend and husband, Captain Eric L. Dillow, USAF, JAC. It is also in honor of all the men and women who have served and are presently serving their country in the United States Armed Forces.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to all the members of my thesis committee. I extend my deepest thanks to Dr. Bonnie Cavanaugh who guided me throughout, both as my academic advisor and thesis committee chairperson. Bonnie has a wonderful way of steering students towards enlightenment while understanding their unique situations. I also gratefully acknowledge Dr. JoAnn Congdon for her dedication to scholarly expertise and her ability to instill this quality in others. And finally, I acknowledge Dr. Diane Skiba for her constant encouragement and support through this challenging experience. Her technological expertise, delightful sense of humor, and honesty are refreshing.

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CHAPTER I

INTRODUCTION

Background of the Problem

The Military Health Services System (MHSS) health promotion and illness prevention programs are growing. Soaring federal health care expenditures along with mounting literature on the benefits of health promotion and illness prevention offered the impetus for change. In 1986 the Department of Defense (DoD) Directive 1010.10, *Health Promotion*, directed military services to implement health promotion and illness prevention initiatives. The DoD recognized the value of the national health promotion and disease prevention objectives of *Healthy People 2000* (U.S. DHHS, PHS, 1991) and used them to establish specific objectives tailored to the needs and goals of the Department of Defense (*Promoting Health 2000*, 1992). Subsequently, each service branch developed its own directives and instructions to manage their numerous health promotion and illness prevention programs that exist within the MHSS.

The DoD commitment to health promotion and illness prevention is further manifested in the latest MHSS reform initiatives. TRICARE, the new DoD managed care program, is designed to "improve beneficiary access to care, ensure affordable and high quality care, provide choice, and contain overall DoD costs" (USAF Surgeon General's Office, 1995). Under this program beneficiaries have three options for seeking health care - TRICARE Standard, TRICARE Extra, and TRICARE Prime (OASD, 1994). The Standard option offers care according to previously established guidelines of the MHSS and the Civilian Health and Medical Program for the Uniformed Services (CHAMPUS), a military supplemental health insurance for beneficiaries under the age of 65. The Extra option combines the Standard benefits with a preferred provider network and the Prime

option offers the Standard benefits along with the preventive and primary care services of a health maintenance organization (OASD, 1994). Cost-sharing features and degrees of freedom for using civilian providers vary with each option (USAF Surgeon General's Office, 1995). Yet, TRICARE, like CHAMPUS, is available only to beneficiaries under the age of 65. This means older retirees are eligible for care in military medical facilities on a space available basis only (Arcari, Giaimo, Rohrbough, Strobridge, & Torsch, 1995; OASD, 1994). Herein lies a dilemma. TRICARE is designed to maximize use of military medical facilities before turning to contracted civilian care. As TRICARE is implemented throughout the MHSS, space available for non-TRICARE beneficiaries will decrease and any space that is available will be managed according to a beneficiary priority system. Older military retirees must operate within this beneficiary priority system of treatment.

The MHSS is responsible for providing health care services to nearly nine million beneficiaries (Lanier & Boone, 1993). Its primary (readiness) mission is to conserve the fighting strength by providing health care to active duty military members. Its secondary (peacetime) mission is to provide health care to beneficiaries within a prioritized system. Priority of care is to active duty military members first; next are dependents of active duty members, then retired military members, and finally, dependents of retirees (Military Compensation Background Papers, 1991).

Another factor impacting the available space in military medical facilities is continued base closures. As bases are closed military medical facilities are moved, downsized, or closed leaving little or no provision of health care through the MHSS in those geographical locations. Given the age restrictions on CHAMPUS and TRICARE, the priority system of care, and continued base closures, military retirees who are age 65 and older must rely more and more on Medicare and private health insurance to meet their health care needs. As a result retirees are incurring greater out-of-pocket expenses for their health care.

Military retirees feel they are being stripped of "promised" health care benefits. They feel they were enticed into service with this "promise" and earned their benefits through sometimes difficult and dangerous military service and personal sacrifices. Retirees feel it is unfair to force them to adjust to these new changes during retirement, requiring them to assume greater out-of-pocket expenses at a time when many individuals are least able to adjust to changing financial circumstances. They also find it ironic that these benefits are being cut as a result of armed forces success, such as the end of the cold war (Burrelli, 1992). In an effort to live up to its "promise" the MHSS should assist this group of beneficiaries in availing themselves of all permitted benefits, including select DoD health promotion and illness prevention programs. A better understanding of older military retirees' self-care behaviors, suppliers of self-care information, and tools of self-care management will allow the MHSS to address the distinctive needs of older military retirees.

Problem and Purpose Statements

Little is known about the self-care behaviors of the elderly, in general, or more specifically, about those of older military retirees. Available sources of information, such as individual medical records and utilization management statistics, reflect primarily illness patterns and the use of professional health care interventions - not self-care behaviors.

Healthy People 2000 (U.S. DHHS, PHS, 1991) highlighted the need for research in the areas of primary and secondary prevention for older adults in order to identify ways of maintaining health, independence, and function in later life. Murphy and Coletta (1995) validated this need by acknowledging the "numerous gaps and omissions" (p. 31) in the research database that supports clinical decisions related to preventive care for the elderly.

As the benefits of health promotion and illness prevention activities among the elderly

are recognized, such as improved health status, improved quality of life, and reduced health care costs (Fries, Bloch, Harrington, Richardson, & Beck, 1993a; Pierce, Fulmer, & Edelman, 1994; Reichel, 1995), it becomes imperative that the MHSS focus efforts on developing such programs for its retiree population. Once equipped with appropriate self-care information and tools, retirees can minimize health care expenditures for themselves and the government (Medicare) by practicing healthy self-care behaviors.

Fundamental to the development of any health promotion or illness prevention program is a thorough assessment of existing practices and perceived needs (Edelman & Mandle, 1994). The problem is the dearth of information on the self-care behaviors of older military retirees makes it difficult to provide them with appropriate self-care information and tools. It was the goal of this study to fill in some of the gaps and omissions in existing knowledge and to generate baseline information that would aid in the development of health promotion and illness prevention programs for older military retirees. Therefore, the purpose of this study was to identify the self-care behaviors practiced by community-based military retirees age 65 and older, their suppliers of self-care information, and their self-care management tools.

Study Questions

This study asked the following three questions: 1) What are the self-care behaviors practiced by community-based military retirees age 65 and older? 2) Who are the suppliers of self-care information to community-based military retirees age 65 and older? 3) What self-care management tools are used by community-based military retirees age 65 and older? Selected personal characteristics of these military retirees were also examined.

Definition of Terms

The World Health Organization's definition of self-care in health (as cited by Lenihan, 1988) was adopted for this study's definition of self-care behaviors:

... the activities individuals, families and communities undertake with the intention of enhancing health, preventing disease, limiting illness, and restoring health. These activities are derived from technical knowledge and skills from the pool of both professional and lay experience. They are undertaken by lay people on their own behalf, either separately or in participative collaboration with professionals. (p. 285)

The application of a particular self-care behavior implied an individual practiced that behavior.

Community-based individuals were persons residing in any living arrangement outside of a formal custodial institution or nursing home. This included, but was not limited to, private homes, shared dwellings, and retirement communities.

All individuals who were categorized as military retirees under any DoD directive or United States Code (U.S.C.) were recognized as military retirees within this study. Older individuals were those persons who were 65 years of age or older.

A supplier of self-care information was any source that generated or transmitted that information. This included, but was not limited to, the professional community, media, friends, family members, or even the self. Self-care information was any data that could potentially aid or direct an individual in caring for self.

A tool of self-care management was any instrument used to manage self-care. Tools of self-care management center primarily around printed and electronic media forms (i.e. advertisements, home health books, pamphlets, or videos). They also include various reminder and tracking systems (i.e. medication reminders or log books). Additionally, self-care management tools can be processes presented by people (i.e. verbal instructions, lectures/seminars, demonstrations).

Personal characteristics referred to selected demographic variables. These included age, gender, ethnicity, marital status, number of dependents, branch of service, category of rank, years of military service, education level, current employment status, range of income, and health insurance coverage.

Significance to Nursing and the MHSS

In 1992 the number of older persons, 65 years or older, accounted for 12.7% (32.3 million) of the United States population, an increase of three percent (1.1 million) since 1990. This number is expected to reach 13% by the year 2000 and 20% by 2030. Additionally, this population is living longer and the average life expectancy has increased. In 1991, persons reaching age 65 were expected to live an average of 17.4 years longer (19 years for women and 15 years for men). Ninety-five percent of older persons in 1990 lived in a noninstitutionalized, community-based, setting. In 1992, approximately 69% of noninstitutionalized older persons lived with someone while the remaining 31% lived alone (AARP & AoA, 1993). Twenty-three percent of community-based older persons in 1986 had health-related difficulties with one or more actives of daily living (ADL) and 28% of them had difficulty with one or more instrumental activities of daily living (IADL) (AARP & AoA, 1993).

A classic study by Zook and Moore (1980) was conducted at six sites and involved the review of 2,238 medical records that were randomly selected from 42,880 records. Through this record review Zook and Moore (1980) identified that in 1976 the 13% of high-cost users of medical care consumed as many resources as the 87% low-cost users. They found that the aged, persons over 65 years of age, disproportionately accounted for approximately 40% of the high-cost users and only 15% of the low-cost users. Interestingly, they also showed that "adverse life styles" were noted more frequently in the medical records of high-cost user than low-cost users and offered suggestions of preventive health care. By 1987 older persons, 65+ years, represented 12% of the United States population yet accounted for 36% of the total personal health care expenditure (AARP & AoA, 1993).

Nursing, like all health care disciplines, has a responsibility of containing health care costs while ensuring clients' health care needs are met. One way this can be accomplished is by equipping clients with the necessary information and tools to care for themselves.

Health promotive and illness preventive self-care interventions can impact utilization of health care resources and ultimately costs. According to Fries et al. (1993b) multiple studies have demonstrated that the provision of information and guidelines about self-care management can lower rates of use of services by 7-17% when associated with modest interventions. The interventions offered objective guidelines to assist individuals in decision making and provided information for home treatment when appropriate. Fries et al. (1993b) stated these modest interventions appeared not only to enhance individuals' information base, but also to increase confidence that much illness was self-limiting. Fries et al. (1993b) cited two studies where increased levels of confidence about health care decisions reduced the costs of long-term health care, even among people with chronic illness.

This study sought to identify the self-care behaviors practiced by community-based military retirees age 65 and older, their suppliers of self-care information, and their self-care management tools. Through this inquiry nursing and the MHSS are better informed of these variables and can provide appropriate self-care information and tools to older military retirees through health promotion and illness prevention programs.

Assumptions

The following assumptions underlie this research study:

1. Information obtained from subjects is valuable to the practice of nursing.
2. Subjects answered the questions honestly.
3. Self-care practices are relevant to the individual's level of health and well-being.
4. Suppliers of self-care information and tools of self-care management impact the individual's ability to care for self.
5. Self report of self-care behaviors, self-care information suppliers, and self-care management tools yielded accurate data.

Summary

With the changing health care benefits of older military retirees the MHSS has an opportunity and responsibility to promote health and prevent illness among these beneficiaries. Retirees can minimize health care expenditures for themselves and the government (Medicare) by practicing healthy self-care behaviors. However, little is known about the self-care behaviors practiced by older military retirees. The current self-care behaviors practiced by these retirees needs to be identified so health promotion and illness prevention programs can focus on enhancing healthy practices and correcting unhealthy practices. Suppliers of self-care information should be identified so information can be channeled through these sources to ensure maximum program utilization and information dissemination. Additionally, the tools of self-care management should be identified so self-care information is presented through the proper means and so health care providers can learn which tools are most effective. Until more information is obtained existing health promotion and illness prevention programs cannot effectively focus on the special needs of older military retirees.

In Chapter II, Howe's (1994) conceptual model of self-care case management and a review of the literature are presented. Howe's (1994) conceptual model of self-care case management was used as the guiding framework for this study. The objective of self-care case management and the key components within the model are discussed. The major areas addressed within the literature review are self-care behaviors of the elderly, suppliers of self-care information, and tools of self-care management.

CHAPTER II

REVIEW OF LITERATURE

Conceptual Model

According to Howe (1994) there are four distinct, yet interconnected, models of case management. They are self-care case management, primary care case management, episodic care case management, and brokered care case management. An understanding of these terms offers clarification of the differences and the relationships between each model of case management. Howe (1994) offered the following definitions:

- Self-Care Case Management** - Any health preventive or promotive action carried out as a direct result of a person's decision to care for himself/herself.
- Primary Care Case Management** - Preventive or promotive care by a health care provider credentialed and privileged to diagnose and treat.
- Episodic Care Case Management** - Health care provided by one or more caregivers as a result of an episodic illness, injury, or condition.
- Brokered Care Case Management** - Coordinated health care provided [by services or agencies coordinated through a case manager not involved in the delivery of direct care] with the intention of organizing care in an appropriate, timely, and cost-effective manner. (p. 3)

While each model is mutually exclusive it is also interdependent of the others by design. This point is emphasized by adopting different perspectives on case management. These models can be viewed as independent models of care; as coexisting models (i.e. self-care case management within the plan of care of another model); or as a continuum of case managed care progressing from a lower level (self-care) to a higher level (brokered care). For purposes of this study the primary adopted view was that of self-care case management as an independent model of care. The view of coexisting models was acknowledged for the sole purpose of categorizing prescribed interventions individuals chose to carry out.

Objective of Self-Care Case Management Model

In the self-care case management model the individual's decision to care for self is the driving force for action. Action within the other models is predicated on the decisions of people outside of the individual and motives are directed at more than care of the individual. This becomes evident when one examines the underlying objectives of each model. The objective of primary care case management centers around diagnostic and intervention services that are beyond the client's capacity; its aim is health promotive. Episodic care case management's objective centers around specialized diagnostic and intervention services that are beyond the capabilities of the client and the primary care provider. It is generally provided during periods of stress with the aim of decreasing that stress for both the client and the primary care provider. The objective of brokered care case management is to match the target population, those in need, with the appropriate services. Whether those services are generalized or specialized is decided by predetermined agreements and standards of practice in relation to the identified need. The entire aim of brokered care case management is finding the right fit between existing needs and available services. The objective of self-care case management differs significantly from the objectives of these three models. Howe (1994) stated "the objective of self-care case management is to maintain an optimal level of health and well-being within natural boundaries and capabilities" (p. 7). The aim of self-care case management is the maintenance of optimal health and well-being. The limitations of self-care case management are imposed only by the individual's natural boundaries and capabilities.

To formulate the objective of self-care case management Howe (1994) borrowed various concepts from Roy's adaptation theory, Orem's theory of self-care, and Carnevali and Patrick's model of requirements and resources. The maintenance of optimal health and well-being within natural boundaries parallels Roy's concept of adaptive responses. Within Roy's theory persons are adaptive systems which have varying adaptation levels.

Adaptation levels impact persons' responses. These responses can be adaptive or ineffective. "Adaptive responses contribute to health, the process of being and becoming integrated; ineffective responses do not" (Chinn & Kramer, 1991, p. 187). Thus if one is able to effectively implement self-care case management within the natural boundaries of one's adaptation level the resulting adaptive responses will maintain optimal health and well-being. Howe (1994) further stated that "... a person's drive to adapt to an ever-changing environment supports the desire to maintain an optimal level of self-care" (p. 48).

The maintenance of optimal health and well-being within one's capabilities reflects Orem's concept of self-care agency. Self-care agency refers to the capabilities of individuals that empower them to engage in self-care (Gast, et al., 1989). Orem believed that "self-care activities maintain life, health, and well-being" (Chinn & Kramer, 1991, p. 183). If a person has limited capabilities to carry out self-care case management then the capacity to maintain health, life, and well-being are also limited. Howe (1994) believed that "the strengthening of self-care capacity is the ultimate intervention toward promoting and achieving the maximum level of independence and quality of life" (p. 48).

To bring together the concepts contained within the self-care case management objective Howe turned to Carnevali and Patrick's model of requirements and resources. Within this model Carnevali and Patrick (1993) stated "Daily Living generates requirements that must be met, while Functional Capacities and External Resources provide the resources to meet these requirements" (p. 6). The relationship between requirements and resources can be seen as a balance. Furthermore, "health (using this model) may be defined as the achievement of a balance between health-related requirements of daily living and the resources for meeting those requirements in such a way that well-being and a degree of satisfaction with quality of life is attained" (Carnevali & Patrick, 1993, p. 6).

Variables in Self-Care Case Management Model

After delineating the objective of self-care case management Howe (1994) identified the variables contained within the model. The variables are customer, suppliers, and tools. The customer is the person seeking health care advice, the self.

Within this model the suppliers of self-care information are principally family, friends, and the media; yet, may also include the professional community or even the self. The self can be a supplier of self-care information based on self discovery through previous experiences or trial-and-error. Howe (1994) astutely pointed out that the customer must weigh the reliability and validity of the information received from these sources and decide if it should be utilized.

Tools are "the instruments of self-care management and center around media" (Howe, 1994, p. 7). Some examples are printed and electronic media. In the past it was predominantly printed media forms but has expanded to electronic forms with the advent of radio, television, videos, and now computers. Various reminder and tracking systems (i.e. medication reminders or log books) and processes (i.e. verbal instructions, demonstrations, and lectures/seminars) are viewed as tools since these systems and processes assist the customer in managing self-care.

Relationship of Objective, Variables, and Study

The researcher's conceptualization of the relationship between the self-care case management objective and variables is presented in Figure 1. This figure illustrates that the objective of self-care case management is to maintain an optimal level of health and well-being. The figure also demonstrates a relationship between the individual's natural boundaries and capabilities. As self-care case management is practiced through self-care behaviors an individual's self-care capacities are strengthened and natural boundaries expanded. When this occurs the individual's optimal level of health and well-being are maintained and possibly elevated. The expanded natural boundaries allow the individual exposure to more suppliers of self-care information and self-care management tools.

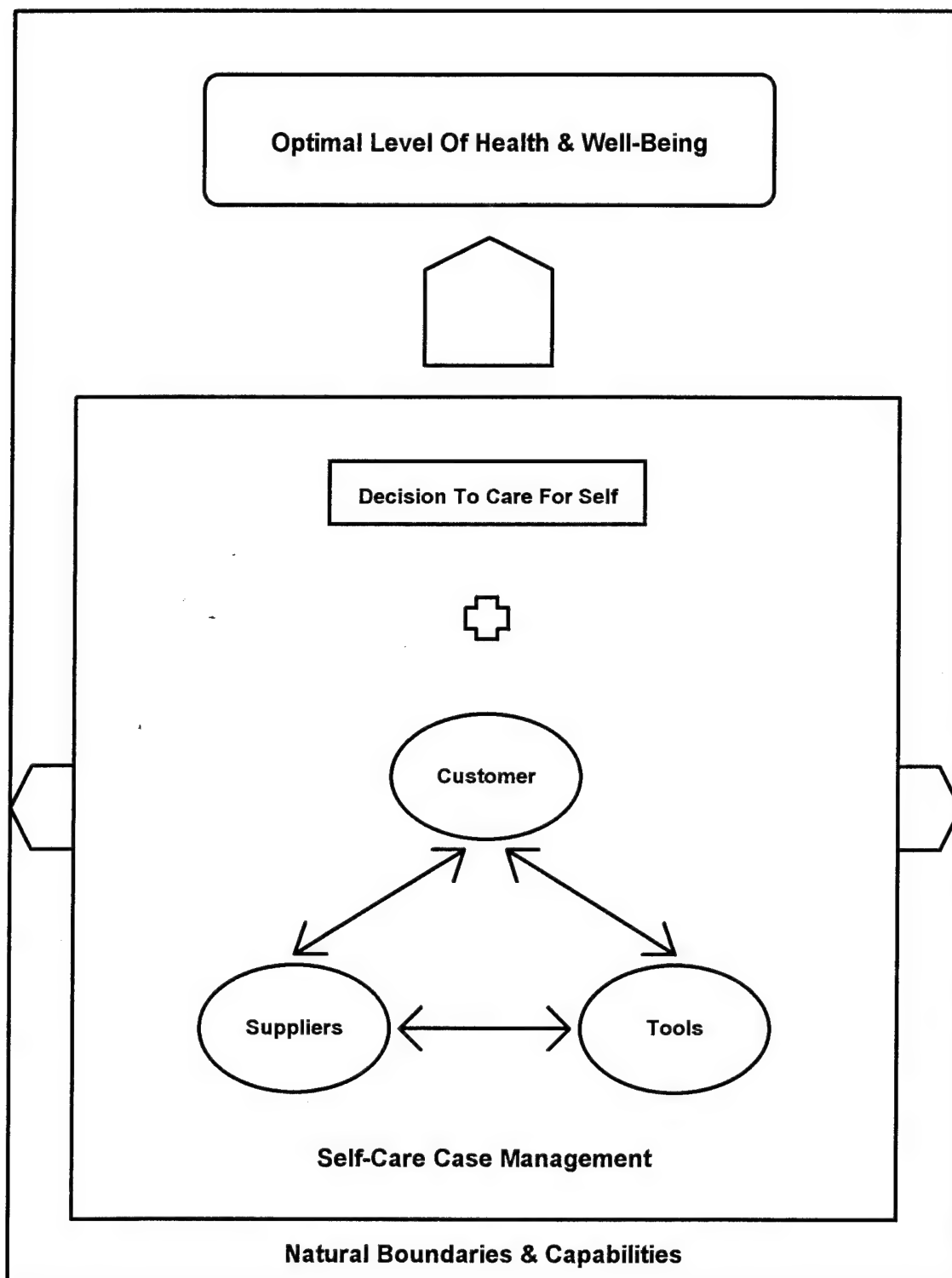


Figure 1: Relationship of Self-Care Case Management objective and variables.

Subsequently, exposure to more suppliers and tools provides them with the opportunity to weigh the reliability and validity of new information and assess the effectiveness of new management tools that could further strengthen self-care capacities and expand natural boundaries. Inherent in this process is the recognition of the limitations of self-care capacities and natural boundaries. Just as it is important to recognize what one can do for themselves, it is equally important to delineate what one cannot do independently.

A bi-directional relationship exists between the three variables; customer, suppliers, and tools. Customers seek out suppliers of self-care information and self-care management tools to assist them with self-care activities. Suppliers, on the other hand, seek out customers to serve; as well as self-care management tools that will facilitate their supply process. Tools of self-care management are devised and utilized according to the prevalence and satisfaction of customers and suppliers. Essential to the success of self-care case management is the individual's decision to care for self. The presence of all three variables means nothing without this. Hence, the effective interaction of the three variables in addition to the decision to care for self equate to self-care case management.

This study sought to identify the self-care behaviors (the product of self-care case management) practiced by community-based military retirees (the customers) age 65 and older. It also asked these retirees to identify their suppliers of self-care information and self-care management tools. Data generated from this investigation provides a better understanding of the variables that influence self-care case management and highlights areas where nursing and other health care disciplines can contribute to enhance the self-care case management of older military retirees.

Selected Review of Literature

The concept of self-care has been with humans since the beginning of their existence. Individuals were practicing self-care behaviors long before the evolution of modern medicine. Even with the advances in today's medicine and technology individuals continue to rely on self-care for a major portion of their health care needs (Dean, 1989a;

Padula, 1992). Kickbusch (1989) traced the development of the "self-care movement" from the 1950s and 1960s, when physicians' authority was rarely questioned and patients were to behave in a compliant manner; through the 1970s, a period of awakening consumerism and questioning of power within the physician-patient relationship; to the 1980s, when self-care was considered a fringe activity that challenged medical dominance. Mockenhaupt (1993) succinctly summarized the relevance of self-care today:

Self-care is gaining recognition from the formal healthcare system, as more managed care plans, physicians, and other professionals incorporate self-care programs and materials in their delivery systems. And now, as debates rage about the shape the healthcare system will take as we move into the twenty-first century, the role of self-care as part of healthcare takes on new importance. (p. 5)

Due to the recognition of self-care as an adjunct to professional medical care health care literature on the topic of self-care has expanded greatly over the past two decades. Literature on the efficacy of self-care, self-care ability, predictors of self-care, as well as instruments and models of self-care abounds. However, little of the literature describes the self-care behaviors of the elderly. Since this study focused on identifying the self-care behaviors, suppliers of self-care information, and tools of self-care management of an elderly population the review of the literature was limited accordingly. The review of the literature is presented using an integrative approach as defined by Creswell (1994). An integrative approach involves "summaries of past research" (Creswell, 1994, p. 22) and includes mention of the problem, focus, sample, and key findings of the studies reviewed. Presented here is an analysis of the literature in relation to the variables of this study: self-care behaviors, suppliers of self-care information, and tools of self-care management.

Self-Care Behaviors

The majority of the studies found related to specific behaviors and were usually aimed at measuring the effects of patient education interventions or sought to identify the relationships of numerous variables to specific self-care behaviors. Few studies described the self-care behaviors of the elderly for everyday living (Brown & McCreedy, 1986;

Lubben, Weiler, & Chi, 1989; Punamaki & Aschan, 1994). Brown and McCreedy (1986) surveyed a sample of 386 hale elderly ages 55 and older. They found that those persons performed an average of 17.2 health protective behaviors. Proper nutrition, adequate sleep, and no smoking were the most frequently practiced activities. Flossing teeth and fastening seatbelts were among the least practiced activities. Additional activities included alterations in diet and fluids, medication administration, personal habits and hobbies, and social activities. Brown and McCreedy (1986) found that an increased number of health behaviors was not necessarily associated with improved health status. They acknowledged their selection of 30 health habits that laypersons believed to be beneficial was a possible explanation for this finding and that laypersons could be mistaken about the health-conferring properties of those behaviors.

The purpose of Lubben, Weiler, and Chi's (1989) study was to describe the health practices of the poor elderly and to examine the association between health practices and hospital use. Through face-to-face interviews with 931 California Medicare subjects, with a mean age of 77.2 and an income of <\$550/month, Lubben, Weiler, and Chi looked at smoking, social networks, physical activity, weight control, sleep patterns, and consumption of whole grains, fruits and vegetables, caffeine, salt, snacks, and breakfast. Their variable selection was guided by the work of Belloc and Breslow (1972). Results showed smoking, limited social networks, and lack of regular exercise increased the odds of subsequent hospital use.

Punamaki and Aschan (1994) studied self-care in Finland. They looked at health diaries of subjects, 27.8% who were over the age of 60, to find out what self-care behaviors were practiced. One-hundred-forty-two diaries were reviewed. They found the most frequently recorded behaviors were drug taking, rest, social support, exercise, reading, solitude, and purposive laziness. Suppliers of self-care information were identified as lay consultants and self-help groups. The tools of self-care management were the diaries and self-help groups. Additionally, they found six goals for self-care

practices and nine causes of everyday helplessness. The relationship of various demographic variables and reported resources of coping and sources of helplessness to mastery of daily life were analyzed. Results showed that patients used a variety of means in attaining mastery. Punamaki and Aschan (1994) pointed out that the diversity of their findings might be related to the way self-care was operationalized, via the subjects' own definitions. Thus concern was raised where self-care is mostly defined from a medical perspective and is only regarded as a supplemental or a secondary alternative to professional medical care or when self-care focuses only on responses to specific symptoms and illnesses. Punamaki and Aschan (1994) stated self-care could best be understood through the study of the history and lifestyle of the community.

Self-Care and Related Variables

Studies addressing self-care requisites (Harris & Williams, 1991), ability to perform oral care (Felder, James, Brown, Lemon, & Reveal, 1994), cost-effectiveness of self-care (Richardson & Harrington, 1993), correlates of self-care (Nicholas, 1993; Segall & Goldstein, 1989), as well as, coping with changes in self-care needs (Jopp, Carroll, & Waters, 1993; Norburn et al., 1995) were more common. Self-report data from a study on the relationship of hardiness and self-care practices to perceived health status in adults (55-92 years of age) found significant links of hardiness scores and self-care scores with perceived health status (Nicholas, 1993). Nicholas (1993) operationalized self-care practices as exercise, substance use, nutrition, relaxation, safety, and general health promotion. From her results Nicholas (1993) concluded that hardiness and self-care practices were important predictors of perceived health status in older adults.

Norburn et al. (1995) studied self-care practices used in coping with functional status limitations. Data from a national survey of interviews with 3,485 noninstitutionalized adults age 65 and older were analyzed. Use of alteration in behavior, assistive equipment or devices, and modifications to surroundings were identified as the primary self-care strategies for coping with functional status limitations. Norburn et al. (1995) also found

that the use of personnel assistance was used to supplement these self-care behaviors rather than replace them.

Patterns of Self-Care

Some studies sought to identify patterns of self-care among adults (Calnan, 1989; Dean, 1989b; Haug, Wykle, & Namazi, 1989; Laffrey, 1990). Through in-home interviews of 465 persons in a Danish community, ages 45 and older, Dean (1989b) found gender and social networks influenced patterns of self-care behaviors and responses to illnesses. She specifically looked at habits of alcohol and tobacco use, conscious health enhancing and hazard avoidance behaviors, and symptom management. Dean (1989b) found that men were more likely to engage in harmful behaviors and that women were more likely to engage in health protective behaviors. She also found that less than half of the sample reported undertaking deliberate health promotion behaviors yet, two-thirds did report hazard avoidance behaviors.

Chronic Conditions and Symptom Management

A larger number of studies investigated adherence to prescribed self-care behaviors for chronic conditions or symptom management and most often included samples whose ages spanned from young adulthood to the oldest old. Yet, only through a review of these studies can one glean information about the actual self-care behaviors of the elderly.

Arthritis and joint care. The purpose of Lorig and Holman's (1989) study was to assess the long-term effects of an arthritis self-management program. The program consisted of individualized self-care contracts, communication skills training, diet and nutrition education, and instruction on the appropriate use of joints and was offered over a six-week period (two hours per week) by lay community leaders to 589 people. One group received reinforcement of self-care behaviors learned in the six-week course through a newsletter, a second group received a repeat six-week course, and a third group received no additional instruction. No significant difference was found between the groups' retention of self-care skills over time. All groups did experience a 20%

decrease in pain, 14% decrease in depression, and a 35% decrease in physician visits; thus supporting the efficacy of teaching self-care skills.

Conn (1990) investigated what self-care actions were used by independently living elderly ages 62-92 for the management of joint symptoms. During individual interviews subjects reported over 65 joint problems and 86 related self-care actions. Medication use (56%) was the most common self-care action followed by heat application (23%), exercise (13%), and rest (11%). Fifty-two percent of the subjects reported using more than one self-care action. Suppliers of self-care information were physicians (44%), self (through experience, trial-and-error, or "always knew"; 25%), lay consultation with family and friends (22%), media (television and radio, 7%), and medication containers (2%). Conn's (1990) study was very informative on the behaviors related to joint self-care by older adults and is reflective of the type of studies needed within the context of everyday living.

Cancer. Using a longitudinal design, Musci and Dodd (1990) studied a sample of 42 cancer patients and families, half who were over the age of 50. They looked at affect as a predictor of self-care related to diet and fluids, activity, and medication use for the management of chemotherapy side effects. Musci and Dodd (1990) found depression and vigor were significant predictors of patients' and families' self-care behaviors during the first cycle of chemotherapy. Severity of side effects consistently predicted self-care behaviors during all three cycles of chemotherapy. Their findings hold implications for teaching self-care strategies to cancer patients and their families but cannot be generalized beyond individuals with that unique experience.

Dodd and Dibble (1993) conducted a similar longitudinal study with 127 cancer patients and found low performance status, higher anxiety, less social support, and more education were significant predictors of increased self-care behaviors. Most notable from their findings was the data that showed patients became more self-reliant when it would

be expected for them to be more dependent. The data also confirmed the efficacy of patient education in relation to self-care behaviors.

Colds and influenza. Conn (1991) undertook a study to examine the self-care behaviors of older adults for the management of cold and flu symptoms. A sample of 160 elderly persons ages 65-94 were interviewed. She found that those elderly persons performed preventive behaviors that included dressing warmly, good nutrition, use of medications, avoidance of others with colds/flu, taking vitamins, altering fluids, vaccination, and rest. The following self-care behaviors were altered in order to manage cold and flu symptoms: medication use, intake of food/fluids, social interaction, rest/activity, and specific behaviors related to breathing and elimination. Twenty-five percent of the subjects reported receiving assistance from another person. Conn (1991) found most of the subjects engaged in preventive behaviors (30% for colds and 70% for flu); medication taking behavior (79% for colds and 95% for flu); and 38% obtained influenza vaccination. The findings presented in Conn's (1991) study clearly identified how those older adults managed their colds and flu symptoms and have implications for professional health care providers in educating older adults on the benefits of influenza vaccination.

Diabetes. Self-care behaviors related to diabetes were the focus of numerous articles. Those articles primarily addressed self-care knowledge and compliance behaviors related to diet, medication administration, and metabolic control and looked for predictors of diabetes self-care behaviors (Amir, Rabin, & Galatzer, 1990; Dellasega, 1990; Hampson, Glasgow, & Toobert, 1990; Hurley & Shea, 1992; Irvine, 1989; Polly, 1992; Polonsky et al., 1994; Rost, Flavin, Schmidt, & McGill, 1990). Some studies measured the effects of educational programs on diabetic self-care behaviors (Litzelman et al., 1993; Rubin, Peyrot, & Saudek, 1991; Tu, McDaniel, & Gay, 1993).

Rost et al. (1990) found significant associations between self-care behaviors (blood

glucose monitoring, and meal skipping) and metabolic control in a cross-sectional study of patients with non-insulin-dependent diabetes mellitus (NIDDM). Patients practicing blood glucose monitoring exhibited better metabolic control while patients practicing meal skipping exhibited poorer metabolic control. However, Rost et al. (1990) cautioned against interpreting the findings of the study as having a causal effect since the study's design would not allow causal inferences and the sample size was small ($N=84$).

Rubin, Peyrot, and Saude (1991) measured the effects of an educational program on self-regulation and lifestyle behaviors of 165 patients, approximately 16% who were over the age of 63. Based on self-reports and physiologic measures, they found that lifestyle changes in diet and exercise were not maintained over time but self-regulation behaviors of blood glucose monitoring and insulin adjustment were improved. Litzelman et al. (1993) also measured the effects of a patient education and care management program on the prevalence of risk factors for lower extremity amputations in patients with NIDDM. They found patients participating in the program were less likely to have serious foot lesions or other dermatological abnormalities. The most frequently reported self-care behaviors for foot care for these patients were washing feet, not soaking their feet, inspecting feet and inside of shoes, drying between toes after washing, and filing calluses. Both of these studies illustrated the benefits of supplying patients with self-care information and tools.

Other researchers looked at the relationship of self-efficacy (Hurley & Shea, 1992), patient-medical team interactions (Amir, Rabin, & Galatzer, 1990), and health beliefs and attitudes (Hampson, Glasgow, & Toobert, 1990; Polly, 1992; and Polonsky et al., 1994) to diabetic self-care and found that these variables could be used as predictors of compliance with certain diabetic self-care behaviors.

Medication management. Wolfe and Schirm (1992) conducted longitudinal research on the post-hospitalization effects (knowledge and compliance behaviors) of a medication

counseling program for elderly patients age 65 and older. Prior to discharge from the hospital 25 patients were given medication fact sheets along with medication counseling and 25 were given counseling only. Measures were taken at the time of discharge and at three to six weeks after discharge. Patients who received the combined intervention exhibited increased knowledge levels but this finding could not be attributed solely to the intervention. However, no statistically significant relationship existed between knowledge levels of medications and compliance behaviors of medication administration for either group. Wolfe and Schirm (1992) discussed issues related to noncompliance of medication administration, many of which illustrated the lack of appropriate tools of self-care management, emphasizing that self-care information alone is insufficient for self-care management.

A study by Conn, Taylor, and Stineman (1992) explored how 179 recently hospitalized elderly ages 65-101 managed their medications. Some of the variables explored through structured interviews were medication storage and items related to knowledge of medication purpose, prescription, and side effects. On a confidence scale of 0-10 subjects ranked seven or higher on their perceived ability for each variable with 'knowing how to obtain further supplies of medications' ranking the highest ($\bar{X} = 9.64$). In this study it was found that forgetfulness accounted for 60% of medication omissions and that almost half of the subjects received assistance from other people to counteract that problem. Spouses and children accounted for 79% of those persons offering assistance and the remaining 21% were visiting nurses, unrelated cohabitants, or employed in-home assistants. The most frequently reported strategies used for remembering medications were placing the medications in a particular location, taking medications in relationship to meals or bedtime, and using timed pill boxes or other persons to remind themselves of medications. Other management strategies for

medication management incorporated the use of reminder and tracking systems.

Another study by Conn (1992) looked at how elders age 65 and older self-managed nonprescription medications. Through structured interviews of 186 elderly she found that 58% reported infrequent use of over-the-counter (OTC) medications, 28% reported occasional use, and only 14% reported frequent use. More than half reported using caffeine, aspirin, and antacids. Acetaminophen, vitamins, laxatives, and alcohol were also frequently used. Vitamins were used for preventive uses and other medications for symptom management. According to Conn (1992) the suppliers of information on these OTC medications were health care providers, self, family/friends, advertisements, and general public information. An interesting finding was that 80-92% of the subjects reported seeing advertisements for either aspirin, laxatives, antacids, or vitamins but only 5-12% reported they were influenced by those advertisements. Other findings showed that OTC medication use was not easily predicted by demographic variables of age, sex, and cohabitation.

Myocardial infarction. Studies on self-care behaviors post-myocardial infarction (MI) included elderly subjects in their samples. Those studies focused on identifying the relationship of state and trait anxiety (Rose, Conn, & Rodeman, 1994), anxiety, depression, and quality of life (Conn, Taylor, & Wiman, 1991), social support and self-esteem (Conn, Taylor, & Hayes, 1992), and self-efficacy (Carroll, 1995) with compliance of prescribed self-care behaviors. They found that there was a low correlation of anxiety and quality of life scores with performance of prescribed self-care behaviors and higher correlation of depression, social support, self-esteem and self-efficacy with performance of certain prescribed self-care behaviors, namely exercise and medication administration.

Conn, Taylor, and Casey (1992) conducted interviews with post-MI patients to examine the relationship between participation in a cardiac rehabilitation program and several variables, including performance of prescribed self-care behaviors. They found a high correlation between subjects who attended the cardiac rehabilitation program and the

performance of exercise and medication administration behaviors. Their findings were consistent with previously mentioned studies.

Summary of Self-Care Behaviors Literature

As evidenced by this review of the literature it is apparent that most of the literature focused on defining the efficacy of certain self-care behaviors or identifying predictors and patterns of self-care. The literature also addressed self-care behaviors within the context of chronic conditions and symptom management and centered on measuring the effects of medical interventions and educational programs. Studies specific to the elderly were limited. Even though the issues addressed in these studies are important, the field of inquiry needs to be expanded to include investigation of self-care behaviors of the elderly within the context of daily living and health.

Suppliers of Self-Care Information

Suppliers of self-care information for specific disease processes were implied in the studies on self-care behaviors. The primary suppliers in those studies were the health care providers who prescribed specific self-care behaviors for the management of chronic conditions. Other suppliers of self-care information found in those studies were within the primary relationships (family and friends) and secondary relationships (community) of the subjects.

In 1982 Green reported on preferred sources of self-care information. As part of a larger study 246 families in a California community were surveyed by telephone as to their preferred source of self-care information. Thirty-eight percent of the respondents preferred written information, 35% preferred non-MD contact (someone other than a physician), 16% preferred television programs, 6% preferred seminars, and 5% did not respond. A second survey of 71 graduate students at the University of Washington asked students what self-care information sources interested them. Eighty percent reported interest in written information, 78% were interested in seminars, 72% were interested in non-MD contact, and 42% were interested in television programs. Additional sources

identified by respondents included a broad range of written materials, telephone information networks, and formal education programs.

Ayers (1989) examined the ways people help themselves in the absence of formal (professional) and informal (nonprofessional) assistance. He classified the various helping strategies as nonprofessional, supplemental nonprofessional, and professional. Nonprofessional strategies consisted of help obtained through the efforts of the individual alone or in conjunction with the individual's preexisting social network of friends, family, and coworkers. Supplemental nonprofessional strategies were generated from outside the individual's usual social network and professional strategies were help from formal sources of support. Ayers (1989) also stated the focus of help seeking could be interpersonal or individual. As such, considering the sources of support and the focus of help seeking, help could be generated from informal social networks, organized peer groups, self-improvement materials, or through self-reliance. In further discussion of the characteristics of these help sources Ayers (1989) pointed out that participation in peer support groups may stimulate use of other help sources, formal and informal. He also addressed a variety of self-improvement sources; namely printed and electronic media, community education programs, and public service announcements. In summary, Ayers (1989) presented a vivid picture of a variety of sources for self-care information; the self, primary and secondary relationships, professional health care providers, and the media.

Another 1989 study supported Ayers (1989) conclusions on lay helping. Coons, McGhan, and Bootman (1989) surveyed 376 college students, ages 18-54, who visited a student health service. The students were asked what sources of self-care information they used for decisions regarding self-care. In order of priority, the most popular sources were family/friends, prior interactions with health care providers, and nonprescription medication advertisements. Coons, McGhan, and Bootman's (1989) study illustrated use of primary relationships, professional health care providers, and media as sources of self-care information.

A newer supplier of self-care information is a direct result of expanding technology. The computer industry is now providing the public with self-care information through computer assisted instructions (CAI). Huss, Salerno, and Huss (1991) used CAI for educating 26 adult atopic asthmatics, ages 18-75, on the implementation of dust mite avoidance measures. On two separate home visits the researchers found these patients demonstrated increased self-care behaviors for allergen avoidance as compared to a control group.

Reis and Wrestler (1994) conducted a study to assess consumer attitudes toward CAI for self-care of the common cold. Their sample consisted of 260 young adult computer users and 194 young adult computer non-users. They found that the non-users preferred personal contact with a physician and felt computerized health assessments would have "limited vocabulary and range of current medical information" (p. 55). Non-users were also more likely to agree that people mistrust the accuracy of computer data and that the average person is not computer literate enough to use CAI.

This review demonstrates that different suppliers of self-care information are used in different situations. These may include primary lay relationships like family, friends, and the self or secondary lay relationships such as the local community, organized peer support groups, and social organizations/associations. Additional suppliers could be professional health care providers or printed and electronic media.

Tools of Self-Care Management

It was difficult to locate all the studies that focus on the tools of self-care management since most are addressed within the context of self-care behaviors and suppliers of self-care information. It was also sometimes difficult to differentiate between suppliers of self-care information and tools of self-care management, especially when discussing various media forms. An example of this dilemma could be found in Hagopian's (1991) study on the effects of a weekly newsletter for patients undergoing

radiation therapy. The study was conducted with a sample 103 cancer patients. Fifty-two subjects, ages 23-84, received a weekly newsletter that provided information on radiation therapy, its side effects, and self-care behaviors to minimize or alleviate side effects. Fifty-one subjects, ages 18-83, were in the control group and did not receive the newsletter. At first glance one might say the newsletter was a supplier of self-care information. Yet the supplier of self-care information was the clinic that sent out the newsletter and the newsletter was a tool for patients to use in guiding self-care behaviors for the management of radiation therapy side effects. The results of Hagopian's (1991) study indicated the patients in the experimental group scored higher on knowledge tests but reported no significant difference in the efficacy or number of self-care behaviors undertaken or in the severity of radiation therapy side effects. Results showed that a newsletter was not an effective tool of self-care in the management of the side-effects of radiation therapy.

Another tool of self-care management was the focus of Hiromoto and Dungan's (1991) study. Their study addressed contract learning of self-care activities with five chemotherapy patients ages 29-83. The contract for learning was developed after a nurse thoroughly assessed learning needs, level of interest, preferred learning methods, visual and neurosensory impairments, and self-care requisites of each patient. Teaching was accomplished by a nurse according to the terms of the contract. They found that four of the five patients expressed a willingness for and commitment to self-care. Thus the nurse was the supplier of self-care information and the contract was the tool.

Other examples of self-care management tools for the elderly were embedded within numerous studies and frequently centered around patient education efforts such as pre-procedure instructions (Williams et al., 1988; Young, de-Guzman, Matis, & McClure, 1994), formal programs on self-care (DeFries, Woomert, Guild, Steckler, & Konrad, 1988; Fries, Bloch, Harrington, Richardson, & Beck, 1993a; Koseki & Reid, 1993;

Moore, LoGerfo, & Inui, 1980; Schmidt, 1993; and Vickery et al., 1983), and self-help groups (Trojan, 1989).

A combination of tools were used in the community-based smoking cessation program which Utz, Shuster, Merwin, and Williams (1994) studied. The program employed the use of written materials, radio, telephone information networks, and verbal instructions. Participants were able to choose which of these management tools were most effective in assisting them with decreasing or quitting their smoking habits. Utz, Shuster, Merwin, and Williams (1994) suggested that the flexibility of the self-directed program was an important factor in the 15% smoking cessation and 41.5% smoking decrease rates of participants.

The literature presented in this review showed a sampling of the tools used for self-care management. There are a variety of tools available for self-care management. The printed media includes newsletters, newspapers, pamphlets, magazines, books, and written advertisements. Electronic media incorporates television, radio, videos, CAIs, online services, and electronic advertisements. Systems used for self-care management frequently are log books or diaries, schedules or calendars, and tracking or reminder systems. Processes that aid in self-care management are health care provider instructions and learning processes of lectures, seminars, and demonstrations.

Summary

Howe's (1994) model of self-care case management has been described. The objective of self-care case management was presented along with a brief discussion of Howe's (1994) formulation of this objective. The variables of the self-care case management model were defined. Figure 1 was used to clarify the relationship between the self-care case management model objective and variables (customer, suppliers, tools). Relevancy of the model to this study was also addressed. Specifically, that identification of the variables defined in Howe's (1994) model within the target group of community-

based military retirees age 65 and older would provide a better understanding of how those variables influence self-care case management of older military retirees and generate baseline data that could be used in the development of appropriate health promotion and disease prevention programs.

A selected review of the literature addressing the self-care behaviors of the elderly, suppliers of self-care information, and tools of self-care management was presented. The review clearly illustrated the need for studies that focus on self-care behaviors of the elderly within the context of health and daily living. Furthermore, studies addressing chronic conditions need to be conducted with limited age groups to identify the self-care behaviors of specific age cohorts. Suppliers of self-care information and tools of self-care management used by the elderly need to be clearly defined so expenditures of time and money will have benefits for greater numbers of elderly and a greater return for investments.

In Chapter III the methodology of this study is presented. Research design, population and sample, and the protection of human subjects are discussed. Instrument development is presented in detail. Lastly, the processes for data collection and data analysis are addressed.

CHAPTER III

METHODOLOGY

Overview

A descriptive survey design and convenience sample were used for this study. Approval for conducting this study was received from the Colorado Multiple Institutional Review Board (COMIRB) at the University of Colorado Health Sciences Center and from the hospital where the study was conducted. Consent was obtained from each potential research subject prior to data collection. The Mini-Mental State Examination (MMS) (Folstein, Folstein, & McHugh, 1975) was used to screen potential subjects. Data on self-care behaviors, sources of self-care information suppliers, and self-care management tools was collected through structured interviews using a researcher developed interview questionnaire. Descriptive statistics were used to analyze the data.

Research Design

A descriptive survey design was selected for this study. Burns and Grove (1993) stated a descriptive study is "designed to gain more information about characteristics within a particular field of study" (p. 293). Data is collected on existing variables and used to assess and validate current conditions and practices or to make informed decisions and plans for improving health care practices (LoBiondo-Wood & Haber, 1994). Polit and Hungler (1995) further explained the purpose of a descriptive study is to "observe, describe, and document aspects of a situation as it naturally occurs" (p. 178).

The two major advantages of descriptive survey research are that a vast amount of information can be collected from a large population in a relatively economical manner and surveys can yield surprisingly accurate data (LoBiondo-Wood & Haber, 1994). Other advantages of descriptive survey research are it allows inquiry of phenomena that

are not amenable to experimentation and it holds strong realism since it looks at phenomena within its naturalistic environment (Polit & Hungler, 1995). Disadvantages are "information obtained in a survey tends to be superficial, ... conducting a survey requires a great deal of expertise in a variety of research areas, ... and large-scale surveys can be time-consuming and costly" (LoBiondo-Wood & Haber, 1994, p. 235).

Surveys are designed to obtain information on certain variables within a particular population. Information is obtained from a sample of the population by means of self-report and is limited primarily by the willingness of respondents to report on the topic of inquiry (Polit & Hungler, 1995). Even though some sources stated there are concerns about the accuracy of information obtained by self-report it is assumed that the information respondents provide is acceptable for inclusion in the survey (Windsor, Baranowski, Clark, & Cutter, 1994; Polit & Hungler, 1995). The various methods of survey include written questionnaires, telephone interviews, and personal interviews (Burns & Grove, 1993; Polit & Hungler, 1995). This study used personal interviews; therefore, the advantages and disadvantages of written questionnaires and telephone interviews were not discussed.

Polit and Hungler (1995) stated personal interviews yield high quality information and are "the most respected method for securing survey information" (p.188). They further identified that few people refuse to be interviewed in person. Windsor, et al (1993) stated "the primary strength of the face-to-face [personal] interview is the use of a well-trained interviewer to query the respondent intensively and to detect, clarify, and follow up on perplexing answers or questions" (p. 265). Multiple sources were quick to point out the disadvantages associated with personal interviews. The disadvantages are that personal interviews are costly to conduct, take considerable planning, require training of interviewers, and can be time consuming (Burns & Grove, 1993; Polit & Hungler, 1995). Despite these disadvantages this researcher believed personal interviews were the most appropriate method for gathering the desired data due to question structure (open-

ended), recording of responses (categorized by the interviewer during interview process) and the length of time involved in completing the questionnaire (an average time of 47 minutes).

Population and Sample

The target population for this study was community-based U.S. military retirees age 65 and older. A convenience sample of 30 subjects was obtained from an accessible population of military retirees receiving health care at a military medical treatment facility in the western region of the United States. It was anticipated that the sample would be predominantly Caucasian males due to the composition of the armed forces when the subjects would have served in the military.

Sampling Technique

Convenience sampling was chosen because it is convenient and it was this researcher's best means of obtaining reasonable access to a portion of the target population. The advantages of this sampling technique are related to the ease with which the researcher can obtain subjects. Convenience samples are less expensive, more accessible, and usually require less time to acquire than other samples. The disadvantages of this technique are the risk of multiple biases existing within the sample since subjects are volunteers from a particular setting. For this reason the generalizability of the study findings may be limited if the final sample is not representative of the target population (Burns & Grove, 1993; LoBiondo-Wood & Haber, 1995).

It was acknowledged that a larger sample size is desirable to increase statistical power and generalizability of findings to the target population. Even so, a sample size of 30 was sufficient for this study since it was conducted as a pilot study. Conducting this pilot study allowed the researcher to refine methodology and assess the feasibility of conducting a large scale study in the future (Burns & Grove, 1993; Polit & Hungler, 1995).

Sampling Criteria

Subjects met the following sampling criteria for selection:

1. Community-based resident.
2. United States military retiree.
3. Sixty-five years of age or older.
4. Spoke and understood the English language.
5. Met a score threshold of 27 on the MMS (Folstein, Folstein, & McHugh, 1975).
6. Willing to participate in a personal interview.

The criterion of meeting a score threshold on the MMS (Folstein, Folstein, & McHugh, 1975) was established to screen subjects who demonstrated cognitive impairment according to the MMS (Folstein, Folstein, & McHugh, 1975) scoring guidelines. The score threshold of 27 was selected because Folstein, Folstein, and McHugh (1975) reported a mean score of 27.6 for "normal" elderly persons (i.e. no clinical cognitive impairment or affective disorder). Subjects demonstrating cognitive impairment were not eligible to participate in the study. Three potential subjects did not meet the score threshold of 27 and were subsequently dropped from the study. "Screening of mental status holds important implications for obtaining informed consent" (Dellasega & Morris, 1993, p. 150) and for the subjects ability to participate in a personal interview. The other inclusion criteria were necessary to ensure subjects were members of the target population and could participate in a personal interview.

Sampling Plan

The following steps were followed when recruiting subjects:

1. Potential subjects were identified by hospital staff and the researcher in two outpatient settings of the medical treatment facility where the study was conducted.
2. The researcher approached potential subjects and explained the purpose and process of the study, associated risks and benefits, and confidentiality issues.
3. The consent form was delivered verbally and the subjects were allowed time to

re-read the form before giving written consent.

4. Once written consent was obtained the subjects were asked questions related to the selection criteria and the MMS (Folstein, Folstein, & McHugh, 1975) was administered. Subjects were informed that the second interview was lengthy and required them to recall a large amount of information and that their performance on the MMS let this researcher know if they would be able to understand the questions and recall the necessary information. This process was used to generate a pool of potential subjects.

5. Upon completion of the MMS (Folstein, Folstein, & McHugh, 1975) subjects were asked to provide the researcher with a telephone number where they could be contacted. Subjects were informed that a limited number of individuals from the sampling pool would be selected for participation in the study and that they would receive a telephone call only if they were selected.

6. The first 30 subjects to meet the selection criteria were selected for the study. The remaining list of potential subjects was retained in the event of attrition or mortality of a selected subject.

7. Selected subjects were contacted by telephone and an appointment was made for a personal interview. Subjects' consent to continue participation in study was verified over the telephone. Subjects wishing to withdraw from the study or who were unable to schedule an appointment for a personal interview were dropped from the study and replaced by a subject from the list of potential subjects. Two potential subjects withdrew from the study at this point and were replaced with subjects from the sampling pool.

8. Personal interviews were conducted at the appointment time in an office provided by the medical treatment facility. Consent to participate was reverified prior to the initiation of the interview.

9. Subjects who failed to show for appointments were contacted for a second appointment time. Two potential subjects failed to show for interviews and could not be

reached by the researcher to schedule a second appointment time. Subsequently, they were dropped from the study and replaced with potential subjects from the sampling pool.

Potential selection biases could have resulted from this process of sample selection. First and foremost were the limitations associated with convenience sampling. Only subjects identified within the two outpatient areas of the medical treatment facility on the days and times that the researcher was present had the possibility of being selected. Additionally, subjects may have been practicing self-selection. Polit and Hungler (1995) cite Kerlinger's description of self-selection:

Self-selection occurs when the members of the groups being studied are in the groups, in part, because they differentially possess traits or characteristics extraneous to the research problem, characteristics that possibly influence or are otherwise related to the variables of the research problem. (p.178)

Second, were the restrictions imposed by the selection criteria. Only subjects who meet the selection criteria were included in the study. This eliminated some individuals who demonstrated cognitive impairment according to the Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975). The limitations of the MMS (Folstein, Folstein, & McHugh, 1975) are discussed with instruments. Third, were the restrictions imposed by a need for telephone contact and transportation. Only subjects who could be contacted by telephone to schedule an appointment for a personal interview and could attain transportation to an interview were retained in the study.

Protection of Human Subjects

Approval for this study was received from the Colorado Multiple Institutional Review Board (COMIRB) at the University of Colorado Health Sciences Center (Appendix A) and from the hospital where the study was conducted (Appendix B). Prior to each interview, the purpose, risks and benefits, and confidentiality of the study was restated. Consent forms (Appendix C) were printed using large black print on buff colored paper for ease of reading for the subjects (Shaw, 1992). Written consent was obtained from

each potential research subject prior to data collection. The researcher informed all subjects of their right to terminate the interview or withdraw from the study at any time. Subjects' mental status was also considered. The MMS (Folstein, Folstein, & McHugh, 1975) was used to screen subjects prior to a personal interview. Subjects demonstrating cognitive impairment as defined by the MMS (Folstein, Folstein, & McHugh, 1975) were excluded from the study since their legal capacity to give consent, ability to exercise free power of choice, and knowledge and comprehension of the subject matter might have been called into question (Burns & Grove, 1993).

Instruments

Two separate instruments were used in this study. The first was the Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975) (Appendix D) and the second was a researcher developed interview questionnaire (Appendix E). The interview questionnaire was used to guide the researcher through the interview process. Discussion regarding development, reliability, and validity of each instrument follows.

Mini-Mental State Examination (MMS)

The MMS (Folstein, Folstein, & McHugh, 1975) in Appendix D was developed in 1975 to assess the cognitive mental status of elderly patients experiencing delirium or dementia syndromes. It is a questionnaire consisting of 11 questions and requires 5-10 minutes to administer. The instrument "concentrates only on the cognitive aspects of mental functions, and excludes questions concerning mood, abnormal mental experiences and the form of thinking" (Folstein, Folstein, & McHugh, 1975, p. 189). The specific categories assessed in the MMS (Folstein, Folstein, & McHugh, 1975) are orientation, registration, attention and calculation, recall, and language. The instrument is divided into two sections; the first part "covers orientation, memory, and attention ... [and] the second part tests ability to name, follow verbal and written commands, write a sentence spontaneously, and copy a complex polygon ..." (Folstein, Folstein, & McHugh, 1975, p. 190). The MMS (Folstein, Folstein, & McHugh, 1975) is administered through personal

interview and is not timed. Subjects' responses are scored during the interview process. Each question is assigned point values. A maximum total score of 30 can be obtained if all questions are responded to correctly.

The major advantage of this questionnaire lies in its brevity and ease of administration (Folstein, Folstein, & McHugh, 1975). Linderborn (1988) also identified the ease of scoring and untimed nature of the instrument as advantages. She further stated that instrument's ability to differentiate between levels of impairment was beneficial to determining the functional level of an individual. Even though Folstein, Folstein, and McHugh, (1975) identified that the use of large lettering would minimize any difficulties patients with impaired vision might experience they did not offer suggestions for minimizing the disadvantages of "heavy reliance on verbal and auditory competence" that Linderborn (1988, p. 36) identified. Additionally, the inclusion of writing, copying, and reading skills are disadvantages of this instrument for older persons with limited formal education (Dellasega & Morris, 1993; Kittner et al., 1986; Linderborn, 1988). To overcome this disadvantage Kittner et al. (1986) and Crum, Anthony, Bassett, & Folstein (1993) offered guidelines for adjusting the scores of subjects with varying educational levels.

Reliability

To establish reliability Folstein, Folstein, and McHugh (1975) conducted test-retest for both intra and interrater reliability. Intrarater reliability was established by having the same examiner administer the instrument twice, 24 hours apart, with the same subject. A correlation of scores by Pearson r was 0.89 ($p < .0001$). The same procedure using two different examiners was repeated to establish interrater reliability. The Pearson r was 0.82 ($p < .0001$). Additionally, no significant differences in scores were noted with a Wilcoxon T .

Further test-retest for intrarater reliability was done at an average of 28 day intervals. Folstein, Folstein, and McHugh (1975) found "no significant difference in these scores by

the Wilcoxon T and product moment correlation for test 1 vs test 2 was 0.98" ($p < .0001$) (p. 194).

Validity

"The MMS (Folstein, Folstein, & McHugh, 1975) was tested for criterion validity [with three diagnostic groups and a "normal" group] and was found to be 87% sensitive and 82% specific for cognitive impairment" (Dellasega & Morris, 1993, p. 148).

Additionally, concurrent validity was determined by comparing the scores of the MMS (Folstein, Folstein, & McHugh, 1975) with the scores of the Wechsler Adult Intelligence Scale, Verbal and Performance in patients who had participated in both examinations in the same week. Folstein, Folstein, and McHugh (1975) found a Pearson r of 0.78 ($p < .0001$) between the MMS and the Verbal IQ scores and a Pearson r of 0.66 ($p < .001$) between the MMS-scores and the Performance IQ scores.

Interview Questionnaire

When data is collected through an interview the interviewer in essence becomes the instrument. It is therefore imperative that the interviewer conduct all interviews in a consistent manner for information to be reliable (Polit & Hungler, 1995). For this reason all interviews were conducted using an interview questionnaire (Appendix E). The interview questionnaire consisted of 56 open-ended questions. Four of the questions required write-in responses and the remaining questions had forced response sets. Forty-five of the questions with forced response sets offered a write-in option for the category of "other". There were four distinct parts to the questionnaire (Demographic/Financial, Functional, Physical, and Mental/Social) that addressed functional, physical, mental, social, financial, and health promotion/disease prevention dimensions as they related to self-care behaviors, self-care information suppliers, and self-care management tools. These dimensions were arrived at through literature review and are discussed in the following paragraphs. Steps taken to establish this questionnaire's reliability and validity are also discussed.

Instructions for the interviewer and subject, transitional statements, and alternate wording were printed on the questionnaire to aid the interviewer with consistency of administration. Charts (Appendix E) listing the functional activities, physical conditions, and mental/social conditions, were provided to subjects during the interview process to aid them in recalling the topics that were addressed so they could provide responses to the questions on their suppliers of self-care information and tools of self-care management.

Instrument Development

The interview questionnaire was designed using a multidimensional approach. This approach was based on literature related to assessment of the elderly. Reichel (1995) recommended assessment of functional, physical, mental, and social dimensions. He also suggested assessment of values (specifically advanced directives and end-of-life decisions), health promotion/disability prevention, and settings of geriatric care. Ebersole and Hess (1994) agreed with Reichel's (1995) recommendation of assessing functional, physical, mental and social dimensions, but added that assessment of the economic status should be included. Meanwhile, Carnevali and Patrick (1993) recommended assessment of functional status and external resources. Together their two dimensions encompassed functional, physical, mental, social, and financial elements. Based on this literature this researcher chose to include the following dimensions on the interview questionnaire: functional, physical, mental, social, financial, and health promotion/disease prevention. Table 1 shows the dimensions and corresponding question numbers of the items addressed in the structured interview questionnaire.

The health promotion/disease prevention dimension was included because of the impact it could have on self-care. In discussing physical aspects of health promotion Hogstel (1994) identified a need to assess physical activity, nutrition, sleep, periodic health examinations, and high risk behaviors (tobacco, alcohol, and medication use). Additionally, the initiatives in *Healthy People 2000* (U.S. DHHS, PHS, 1991) for older

adults were aimed at maintaining health and functional independence. Hogstel's (1994) comments and the *Healthy People 2000* (U.S. DHHS, PHS, 1991) initiatives were used to guide content selection for the health promotion/disease prevention dimension.

Questions pertaining to health promotion/disease prevention were integrated throughout the questionnaire.

Table 1

Dimensions and Corresponding Question Numbers of Items Addressed in Structured Interview Questionnaire

Dimensions	Question numbers
Demographics	1-9, 11
Financial	10, 12-12a
Self-Care Behaviors	
Functional	13-15, 16-17, 19-20, 21, 22-25a-b, 26
Physical	29-29a, 30-30a, 31-31a, 32-32a, 33-33a, 34-34a, 35-35a, 37-37a, 40-40a, 41-41a, 42-42a, 43-43a, 44-44a, 45-45a
Mental/Social	49-49a, 50-50a, 51-51a, 52-52a, 53-54
Health Promotion/Disease Prevention	15a, 18-18a, 20a-b, 21a, 26a, 30b, 31b, 33b-d, 35b, 36-36a, 37b, 38-38a-b, 39-39a-b, 40b, 42b, 44b, 46-46a-c
Suppliers	27, 47, 55
Tools	28, 48, 56

Part I: Demographics/Financial. The first part of the questionnaire addressed demographics and the financial dimension. Burns and Grove (1993) stated it was appropriate to begin interviews and questionnaires with demographic information since subjects are familiar with this information and it is considered to be a "safe" topic. It was recognized that questions regarding finances could be perceived by subjects to be intrusive. For this reason questions pertaining to finances were structured in manner that would secure the necessary information while preserving a degree of anonymity for the subjects.

Part II: Functional. The second part of the questionnaire addressed the functional dimension, elements of activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Katz (1963) Index of Activities of Daily Living, The Five-Item Instrumental Activities of Daily Living Screening Questionnaire (Fillenbaum, 1985), and an adapted version of the IADLs from the Multidimensional Assessment Questionnaire (Reichel, 1995) were used to guide content selection.

Part III: Physical. The third part of the questionnaire addressed the physical dimension, acute and chronic physical conditions common to the elderly. The researcher reviewed the literature to identify what conditions should be included in this section. It was found that numerous studies had been conducted to identify acute and chronic conditions common to the elderly. McRae (1995) presented a concise summary of those studies in *Care of the Elderly: Clinical Aspects of Aging* (Reichel, 1995). According to McRae (1995) a 1986 study of elderly persons over the age of 65 reported the following top four physical symptoms for men: nocturia (79.8%), irregular heart beat (24.8%), cold feet and legs (23.6%), and tinnitus (23.1%); and for women nocturia (80.4%), pedal edema (30.5%), cold feet and legs (28.6%), and constipation (23.7%). He also stated a 1988 National Health Interview Survey found respiratory conditions, injuries, and acute digestive disorders to be the top three acute conditions reported. The same survey reported the 10 most prevalent chronic conditions were arthritis, hypertension, hearing

impairment, chronic sinusitis, cataracts, deformity or orthopedic impairment, diabetes, visual impairments, and tinnitus. McRae's (1995) discussion is supported by other authors and study findings.

Healthy People 2000 (U.S. DHHS, PHS, 1991) identified visual and hearing impairments as the two sensory impairments that have a significant effect on the quality of life of older people. This effect was most noted in the area of functional independence.

Reichel (1995) identified falls as the leading cause of accidental death for persons 65 years of age and over. Both Ebersole and Hess (1994) and Reichel (1995) agreed that falls are the number one type of accidental injury among the elderly. According to Ebersole and Hess (1994) the National Institute on Aging estimated that one-third of the elderly, 65 years and older, who live at home fall and half of those fall repeatedly.

A Profile of Older Americans (AARP & AoA, 1993) stated most older persons have at least one chronic illness and many have more than one. They reported that in 1991 the most frequently occurring conditions per 100 noninstitutionalized elderly were "arthritis (48), hypertension (37), hearing impairments (32), heart disease (30), orthopedic impairments (18), cataracts (17), sinusitis (14), diabetes (10), and tinnitus and varicose veins (8 each)" (p. 13).

Based on these findings the researcher chose to address the following acute and chronic physical conditions within the physical dimension: hearing and visual impairments, tinnitus, sinusitis, respiratory conditions, arthritis, osteoporosis, falls, heart disease, hypertension, circulation in the lower extremities, diabetes, digestive disorders, and pain. The element of "pain" was included for the following reasons. There are several myths associated with pain in the elderly (Ebersole & Hess, 1994) that may influence the reporting and identification of pain as a complaint of the elderly. It was also noted that several of the conditions that were reported have an element of pain associated with them. The condition of incontinence was excluded from this section because it was addressed in Part II of the interview questionnaire.

Part IV: Mental/Social. The fourth part of the questionnaire addressed the mental and social dimensions, specifically emotions and social support systems. Anxiety and depressive disorders were common among patients seen in clinics and confusion disorders among institutionalized patients (Reichel, 1995). The 1986 National Center for Health Statistics identified affective disorders accounted for 52% of psychiatric admissions, organic disorders for 20%, schizophrenia for 8%, and alcohol-related diseases for 5% (Reichel, 1995). Ebersole and Hess (1994) stated "depression is the problem of greatest frequency and magnitude in the aged population" (p. 549). While Hogstel (1994) identified mental disorders older adults may experience as depression, suicide, organic mental disorders, and substance abuse. The reasons for suicide vary. Common causes for suicide in the elderly might include depression, isolation, physical/mental illness or pain, or loss of cognitive capacities (Ebersole & Hess, 1994; Hogstel, 1994).

Support systems play an important role in the well-being of the elderly. Support is frequently found in primary (friends and family) or secondary (community) relationships and occasionally through the government (Ebersole & Hess, 1994; Hogstel, 1994; Reichel, 1995). Additionally, support can be psychological (emotional), physical, material, or a network of all three (Ebersole & Hess, 1994; Hogstel, 1994; Reichel, 1995). Based on this literature the researcher chose to address the following elements within the mental and social dimensions: anxiety, depression, confusion, isolation, and social networks (specifically primary and secondary relationships).

Response sets. Response options for questions pertaining to self-care behaviors were based on interventions identified in three different texts on the care of older adults; *Toward Healthy Aging: Human Needs and Nursing Response* (Ebersole & Hess, 1994), *Nursing Care of the Older Adult* (Hogstel, 1994), and *Care of the Elderly: Clinical Aspects of Aging* (Reichel, 1995). The National Survey of Self-Care and Aging (NSSCA) instrument, "Self-Care Assessment of the Community-Based Elderly Project" (1990) from the University of North Carolina at Chapel Hill, was also used to guide the

researcher in defining these response sets. Response options for questions on health promotion/disease prevention were based on recommendations found in the *Clinician's Handbook of Preventive Services: Put Prevention Into Practice* (U.S. DHHS, PHS, 1994) and initiatives found in *Healthy People 2000* (U.S. DHHS, PHS, 1991). Finally, response options for questions concerning self-care information suppliers and self-care management tools were based on findings discussed in the literature review in Chapter II and were guided by Howe's (1994) conceptual model of self-care case management.

The issue of response set bias should be mentioned here. There is the tendency of some subjects to respond to items in a characteristic way, independent of the item's content (Polit & Hungler, 1995). The researcher feels this was of minimal concern with this interview questionnaire since subjects' responses were categorized by the researcher and then recorded on the questionnaire.

Reliability

To establish reliability the researcher adhered to the instructions on the interview questionnaire. The same instructions for the interview process were read to each subject. All questions were asked as printed; the provided alternate wording was used only if subjects did not appear to understand the question. Printed transitional statements were used to transition from one part of the interview questionnaire to the next. The researcher asked all questions in the same order and manner.

Content Validity

To establish content validity of the interview questionnaire the instrument was reviewed by five nurse experts. A cover letter explaining what was required of these experts accompanied each questionnaire (Appendix F). These experts were asked to examine the clarity and order of the questionnaire and to determine if the questions addressed the concepts of self-care behaviors, self-care information suppliers, and self-care management tools within each of the selected dimensions. Credentials of the expert reviewers are listed below.

1. Assistant Professor: This nurse is an Assistant Professor in the undergraduate and graduate programs at the University of Colorado Health Sciences Center, School of Nursing. She also holds the position of the Baccalaureate Program Director. She is a doctorate prepared nurse with 22 years of experience in adult nursing and has expertise in development of survey instruments and design.

2. Assistant Professor: This nurse is an Assistant Professor at the University of Colorado Health Sciences Center, School of Nursing and teaches graduate courses on aging and adult health. She has 15 years of experience in care of the elderly. As a doctorate prepared nurse she is actively involved in conducting research with rural elderly persons and rural health care providers. She also holds the position of the Associate Director with the Colorado Geriatric Education Center.

3. Senior Instructor: This nurse is a Senior Instructor with the University of Colorado Health Sciences Center, School of Nursing. She is also the Executive Director of the Colorado Geriatric Education Center and Associate Director of the Native Elder Health Care Resource Center. She is a master prepared nurse with 16 years of experience in care of the elderly and is presently responsible for teaching, planning and conducting geriatric/gerontological continuing education workshops, geriatric/gerontology curriculum development, and consultation. She also offered expertise on survey design.

4. Advanced Practice Nurse: This master prepared nurse is the Geriatric Evaluation Management (GEM) Program Coordinator and Community Health Relief Nurse for the Veterans' Administration Medical Center in Denver, Colorado. Her previous experience includes 11 years as a staff nurse in caring for the elderly, two years as a staff nurse in a nursing home, and nine months as the GEM Coordinator. She has been certified in geriatric nursing for the past six years and in rehabilitation nursing for the past four years. She fulfills numerous responsibilities in assessing geriatric patients and coordinating in-

house and community care, as well as participating in the teaching role of the medical center.

5. Nurse Practitioner: This nurse is a certified Geriatric Nurse Practitioner. She has 9 years of experience in care of the elderly and is presently responsible for providing primary care to a geriatric population in a specialized geriatric outpatient clinic.

The researcher field tested the interview questionnaire with subjects similar to those who would be used in the study. Field testing allows "the researcher to identify problems in the design of questions, sequencing of questions, or procedure for recording responses. It also allows an assessment of the reliability and validity of the interview instrument" (Burns & Grove, 1994, p. 366). The field test interviews took 45-60 minutes to complete. Revisions were made to the order and wording of some questions in accordance with the reviewers' recommendations and field testing results. Questions pertaining to the number of medications used by the subjects and additional immunizations were added.

Data Collection

Data collection began after written consent was obtained. Both questionnaires were administered by personal interview. The advantages and disadvantages of personal interviews was discussed in previous paragraphs and will not be repeated here. The sampling process, discussed previously, delineated how subjects were screened with the MMS (Folstein, Folstein, & McHugh, 1975) and selected for a second interview.

The MMS (Folstein, Folstein, & McHugh, 1975) was conducted at first contact with the subjects at the medical treatment facility. During administration of the MMS (Folstein, Folstein, & McHugh, 1975) the interviewer and the subject were the only two people in the room. Instructions for administration of the questionnaire were strictly followed (Appendix D). The researcher was the only person administering this questionnaire.

The second interview was conducted at second contact with the subjects in an office provided by the medical treatment facility. The interviewer reverified the subject's consent to participate in the study prior to starting the interview. The interviewer and subject were the only two people in the room. The interviewer strictly follow the instructions for administration of the questionnaire (Appendix E). The interviewer read interview instructions to each subject prior to interview start. The interviewer recorded the interview start-time. The interviewer progressed through the questionnaire in the order the questions were printed. The interviewer read all questions as they were worded. Questions were repeated as necessary. Alternative wording was read only if the subject did not appear to understand the question. The interviewer recorded subjects' responses on the questionnaire throughout the interview process. Probing was used if the interviewer believed a subject's response was incomplete or if the interviewer was uncertain of the response. Printed transitional statements were used to ease transition from one part of the questionnaire to the next and to offer consistency in the manner of administration. Interviews were terminated at completion of the questionnaire, interview stop-time recorded, and subjects thanked for their participation. One interview was paused for seven minutes to allow the subject to take care of toileting needs.

Data Analysis

Descriptive statistics were used to analyze the data. "Descriptive statistics allow the researcher to organize the data in ways that give meaning and facilitate insight, to examine a phenomenon from a variety of angles in order to understand more clearly what is being seen." (Burns & Grove, 1993). According to LoBiondo-Wood and Haber (1994) descriptive statistics incorporate measures of central tendency (mode, median, mean), measures of variability (modal percentage, range, standard deviation), and some correlation techniques (scatter plots). Since the purpose of this study was to identify the self-care behaviors, self-care information suppliers, and self-care management tools of

community-base military retirees, descriptive statistics were an appropriate method of data analysis.

The Statistical Package for the Social Sciences (SPSS) computer software program was used to analyze the data. All data was entered by the researcher and checked for correctness. Data was analyzed according to the self-care dimensions assessed (functional, physical, mental, social, financial, and health promotion/disease prevention) and according to the concepts within Howe's (1994) model of self-care case management (customer, suppliers, and tools).

Summary

The methodology of this study has been described. The research design and sampling technique were discussed along with associated advantages and disadvantages of each. The sampling criteria and plan were outlined in detail and measures for the protection of human subjects were explained. Instruments were described and issues of instrument development, reliability, and validity were addressed. The processes for data collection and analysis were presented. Chapter IV will report on the results of this study.

CHAPTER IV

RESULTS

Introduction to Organization of Data

Descriptive statistics (ranges, modes, frequencies, percents, means, and standard deviations) were used to analyze data from the MMS (Folstein, Folstein, & McHugh, 1975) and the interview questionnaire. Values were assigned to each response set and all data were entered by the researcher into the Statistical Package for the Social Sciences (SPSS) computer program. Results were computed by the SPSS.

Statistics for the MMS (Folstein, Folstein, & McHugh, 1975) were calculated for the total sample. Results were reported with descriptive statistics of range, mode, frequencies, and percents.

Demographics of the sample obtained in Part I (demographic/financial) of the interview questionnaire were analyzed. These included age, gender, ethnicity, marital status, number living in household, branch of service, category of rank, years of military service, employment status, annual household income, education level, and health insurance coverage. Results were reported with descriptive statistics of range, frequencies, percents, means, and standard deviations.

Data pertaining to self-care behaviors, suppliers of self-care information, and tools of self-care management were analyzed according to Part II (functional), Part III (physical), and Part IV (mental/social) of the interview questionnaire. Data on self-care behaviors for health promotion/disease prevention issues were collected throughout the interview process and were analyzed as a separate category, independent from the parts of the interview questionnaire. Results were reported with descriptive statistics of frequencies and percents.

Frequencies and percents of responses for questions addressing self-care behaviors, suppliers of self-care information, and tools of self-care management occasionally totaled greater than 100.0% ($N = 30$) since subjects were permitted to identify more than one response. Statistics for responses to items subordinate to questions with skip-patterns were calculated with a value equal to the number of subjects responding to the those questions; exceptions are identified within individual tables.

Mini-Mental State Examination (MMS)

Potential subjects were identified and screened for cognitive impairment with the MMS (Folstein, Folstein, & McHugh, 1975) until a final sample size of thirty was obtained ($N = 30$). Only those subjects obtaining a score of 27 or greater on the MMS (Folstein, Folstein, & McHugh, 1975) were retained in the subject pool. The length of time for administration of Folstein, Folstein, & McHugh's (1975) MMS ranged from 5-10 minutes with a mean time of 6.9 minutes. The scores on the MMS (Folstein, Folstein, & McHugh, 1975) ranged from 27-30 with a mode of 30. Table 2 shows the frequencies and percents of scores obtained by the final sample.

Table 2
Scores on Mini-Mental State Examination ($N = 30$)

Score	<i>f</i>	%
27	4	13.3
28	5	16.7
29	9	30.0
30	12	40.0

Interview Questionnaire

Data regarding subjects' self-care behaviors, suppliers of self-care information, tools of self-care management, and select personal characteristics were collected through

individual structured interviews as described in Chapter III. The length of time for administration of the interview questionnaire ranged from 24-133 minutes with a mean time of 46.5 minutes and a standard deviation of 25.1 minutes. One interview was paused for seven minutes to allow the subject to take care of toileting needs. Those seven minutes were subtracted from the length of that subject's interview.

Description of Final Sample

The final sample consisted of thirty subjects ($N = 30$). Ages of the subjects ranged from 65-83 years. The mean age of all subjects was 71.4 years with a standard deviation of 5.9 years. Twenty-nine (96.7%) of the subjects were male and one (3.3%) was female. Twenty-nine (96.7%) of the subjects were Caucasian and one (3.3%) was Hispanic. Twenty-five of the subjects (83.3%) were married at the time of data collection, four (13.3%) were widowed, and one (3.3%) was separated/divorced. Twenty (66.7%) of the subjects reported two persons currently living in the household, followed by one person households ($n = 6$, 20.0%), three person households ($n = 3$, 10.0%), and four person households ($n = 1$, 3.3%).

Nineteen (63.3%) of the subjects were Air Force retirees, seven (23.3%) were Army retirees, three (10%) were Navy retirees, and one (3.3%) was a retired Marine. Twenty (66.7%) of the subjects were retired commissioned officers, eight (26.7%) were retired enlisted members, and there was one (3.3%) retired warrant officer and one (3.3%) retired officer with prior enlisted service. The years of military service ranged from 20-34 years for this sample. The mean years of military service was 25.7 years with a standard deviation of 4.1 years.

Twenty-five (83.3%) of the subjects reported their current employment status as retired and five (16.7%) reported they were still employed in a part-time or full-time position. Annual household income ranged from \$10,001 to >\$75,001. Three subjects (10.0%) reported in the \$10,001-\$25,000 range, 13 (43.3%) reported in the

\$25,001-\$50,000 range, six (20.0%) reported in the \$50,001-\$75,000 range and eight (26.7%) reported an annual household income >\$75,001. The educational level of the subjects ranged from a high school diploma/GED ($n = 1$, 3.3%), technical/trade school ($n = 1$, 3.3%), college courses/no degree ($n = 7$, 23.3%), associate degree ($n = 1$, 3.3%), bachelors degree ($n = 11$, 36.7%), to a masters degree ($n = 9$, 30.0%). Twenty-eight

Table 3

Average Subject Profile (N = 30)

Item	Average Response
Age	71.4 years
Gender	Male
Ethnicity	Caucasian
Marital status	Married
No. living in household	2
Branch of service	Air Force
Category of rank	Officer
Years of military service	25.7 years
Employment status	Retired
Highest level of education	Bachelor degree
Range of annual household income	\$25,001-\$50,000
Health insurance besides Medicare	Yes
Preventive Health insurance coverage	Yes

(93.3%) of the subjects reported carrying health insurance besides Medicare. Of those carrying supplemental health insurance nine, or 32.1% of the 28, reported coverage for preventive health care such as routine physicals or disease screening. Table 3 provides a description of the average subject who participated in this study.

Self-Care Behaviors

Self-care behaviors of subjects were assessed in parts II, III, and IV of the interview questionnaire which incorporated the functional, physical, mental, social, and health promotion/disease prevention dimensions of self-care. The process of deciding how to categorize subjects' responses was considered prior to data collection. Table 4 reflects the final decision process used by the researcher to categorize responses during the interview process. The sub-categories under the heading of "Other" were added after data collection in order to reflect the meaning of subjects' responses in the "Other" category.

Table 4
Categorization of Subjects' Responses According to Type of Intervention

Functional	Physical	Intervention		
		Mental	Social	Other
Alter task	Alter diet	Increase knowledge	Primary relationship support	No change/ perform by self
Assistive devices	Alter fluids	Monitor situation	Secondary relationship support	Nothing/ no change
Equipment use	Alter activity	Alter behavior		
	Take medications	Spiritual support	Professional	

Functional

Part II of the interview questionnaire addressed the functional dimension of self-care behaviors, specifically activities of daily living (ADL) and instrumental activities of daily living (IADL). Subjects reported interventions they used to take care of and to continue performing these activities. Table 5 shows the frequencies and percents of responses of interventions for each activity addressed. Overall, the most frequently occurring response for intervention was "Other", accounting for nine of the 15 functional activities addressed. The response of "no change/perform by self" was the only item the researcher categorized in the "Other" category for functional activities. Of the remaining six activities, functional

Table 5
Frequencies and Percents of Interventions According to Functional Activity (N = 30)

Activity	Intervention									
	Functional		Physical		Mental		Social		Other	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Heavy housework	7	23.3	1	3.3	1	3.3	12	40.0	14	46.7
Telephone use	6	20.0	0	0.0	0	0.0	1	3.3	24	80.0
Traveling	23	76.7	1	3.3	10	33.3	5	16.7	5	16.7
Shopping	2	6.7	0	0.0	0	0.0	7	23.3	22	73.3
Handle money	2	6.7	0	0.0	5	16.7	13	43.3	12	40.0
Manage medications	7	23.3	0	0.0	27	90.0	2	6.7	1	3.3
Prepare meals	8	26.7	0	0.0	1	3.3	15	50.0	8	26.7
Feeding	1	3.3	0	0.0	0	0.0	0	0.0	29	96.7
Care for teeth	30	100.0	5	16.7	0	0.0	25	83.3	0	0.0
Bathing	6	20.0	0	0.0	0	0.0	0	0.0	24	80.0
Grooming	1	3.3	0	0.0	0	0.0	1	3.3	29	96.7
Dressing	3	10.0	0	0.0	0	0.0	0	0.0	27	90.0
Incontinence*	4	57.1	3	42.9	2	28.8	0	0.0	0	0.0
Toileting	2	6.7	0	0.0	0	0.0	0	0.0	28	93.3
Mobility/transfer	4	13.3	2	6.7	0	0.0	0	0.0	25	83.3

Note. *All frequencies and percents were calculated with the value of N with the exception of those reported on incontinence. Frequencies and percents reported for management of incontinence represent responses of subjects who reported experiencing urinary or bowel incontinence (*n* = 7).

interventions were most frequently reported for traveling, care of teeth, and management of incontinence; social interventions were most frequently reported for handling money and preparing meals; and mental interventions were most frequently reported for management of medications. The least reported interventions for the management of ADLs and IADLs were physical interventions.

Physical

Part III of the interview questionnaire predominantly addressed the physical dimension of self-care behaviors, specifically acute and chronic conditions common to older adults. Subjects were asked if they experienced a specific physical condition. If they reported experiencing a physical condition they were asked to report the interventions they used to take care of that condition. Table 6 shows the frequencies and percents of responses of interventions for each condition that the subjects reported. For the condition "Falls", only the responses of the 13 subjects who reported experiencing the condition are represented in Table 6. Responses related to interventions for the prevention of falls are reported with data on health promotion/disease prevention. Overall, physical interventions were the most frequently reported interventions, accounting for 10 of the 15 physical conditions addressed. Three of those conditions; osteoporosis, hypertension, and diabetes; had other interventions reported as frequently as physical interventions. Of the remaining seven conditions functional interventions were most frequently reported for trouble hearing, trouble seeing, and prevention of falls; mental interventions were most frequently reported for management of tinnitus and decreasing alcohol use; and social interventions were most frequently reported for management of heart disease. No interventions were identified for cessation of tobacco use since the one subject that reported tobacco use reported no attempts to decrease or quit tobacco use. The least reported intervention was in the category of "Other" and were identified in relation to four conditions, osteoporosis, falls, heart disease, and upset stomach/heartburn. The response of "nothing/no change" was the only item the researcher categorized in the "Other" category for the management of physical conditions.

Mental/Social

Part IV of the interview questionnaire addressed the mental and social dimensions of self-care behaviors, specifically mental conditions and relationships. Subjects were asked

Table 6
Frequencies and Percents of Interventions According to Physical Condition ($N=30$)

Condition	* <i>n</i>	Intervention				
		Functional <i>f</i> %	Physical <i>f</i> %	Mental <i>f</i> %	Social <i>f</i> %	Other <i>f</i> %
Trouble hearing	14	11 78.6	0 0.0	5 35.7	6 42.9	0 0.0
Tinnitus	14	1 7.1	0 0.0	14 100.0	1 7.1	0 0.0
Trouble seeing	29	28 96.6	4 13.8	0 0.0	4 13.8	0 0.0
Sinus problems	12	4 33.3	10 83.3	1 8.3	6 50.0	0 0.0
Cough/respiratory flu	5	0 0.0	5 100.0	0 0.0	4 80.0	0 0.0
Arthritis	19	3 15.8	16 84.2	7 36.8	10 52.6	0 0.0
Osteoporosis	2	1 50.0	1 50.0	0 0.0	1 50.0	1 50.0
Falls	13	3 23.1	2 15.4	5 38.5	1 7.7	5 38.5

* n represents the number of subjects from the total sample ($N=30$) who reported experiencing the physical condition. All frequencies and percents were calculated using the value of n .

Table 6
Frequencies and Percents of Interventions According to Physical Condition (N = 30) -- Continued

Condition	* n	Intervention			
		Functional f %	Physical f %	Mental f %	Other f %
Heart disease	14	0 0.0	12 85.7	0 0.0	13 92.9
Hypertension	15	4 26.7	15 100.0	3 20.0	15 100.0
Poor circulation in legs/feet	5	2 40.0	3 60.0	0 0.0	1 20.0
Diabetes	5	4 80.0	5 100.0	1 20.0	5 100.0
Upset stomach/heartburn	10	1 10.0	9 90.0	3 30.0	5 50.0
Upset bowels	5	0 0.0	5 100.0	0 0.0	2 40.0
Physical aches/pain	16	4 25.0	11 68.8	5 31.3	5 31.3

* n represents the number of subjects from the total sample (N = 30) who reported experiencing the physical condition. All frequencies and percents were calculated using the value of n.

if they experienced specific mental conditions. If they reported experiencing a condition they were asked to report the interventions they used to take care of themselves when they experienced the mental condition. Table 7 shows the frequencies and percents of responses of interventions for each condition that the subjects reported. Overall, the most frequently reported interventions were mental interventions. Social interventions were reported as frequently as mental interventions in caring for oneself when experiencing isolation. The least reported intervention, "nothing", was categorized as "Other" and was reported by one subject as the intervention for confusion.

Table 7
Frequencies and Percents of Interventions According to Mental Condition (N =30)

Condition	n *	Intervention									
		Functional		Physical		Mental		Social		Other	
		f	%	f	%	f	%	f	%	f	%
Anxiety	12	0	0.0	3	25.0	11	91.7	1	8.3	0	0.0
Depression	6	0	0.0	2	33.3	5	83.3	2	33.3	0	0.0
Confusion	3	0	0.0	0	0.0	2	66.7	0	0.0	1	33.3
Isolation	3	0	0.0	1	33.3	2	66.7	2	66.7	0	0.0

Note. * n represents the number of subjects from the total sample (N = 30) who reported experiencing the mental condition. All frequencies and percents were calculated using the value of n.

Subjects were also asked what interventions they performed in order to maintain relationships with family, friends, and the community. The labels of the interventions contained in the response sets for the two questions addressing primary (family/friends) and secondary (community) relationships differed from the response sets for other self-care behavior questions. These interventions and the reported frequencies and percents of each intervention are contained in Table 8. Sharing experiences, followed closely by going places, was the most frequently reported intervention for the maintenance of primary relationships. Joining groups and clubs was the most frequently reported

intervention for the maintenance of secondary relationships. Acquiring new knowledge and skills was the least reported intervention being reported 16.7% of the time for primary relationships and 10.0% of the time for secondary relationships.

Table 8
Frequencies and Percents of Interventions According to Type of Relationship (N =30)

Intervention	Relationship			
	Primary		Secondary	
	<i>f</i>	%	<i>f</i>	%
Go places	28	93.3	15	50.0
Share experiences	30	100.0	19	63.3
Acquire new knowledge/skills	5	16.7	3	10.0
Volunteer	7	23.3	15	50.0
Join groups/clubs	5	16.7	24	80.0

Health Promotion/Disease Prevention

Nutrition. Nineteen (63.3%) of the subjects reported they had tried to improve their nutritional habits in the past 12 months. Nine (47.4%) of those subjects reported the use of vitamins and mineral supplements, including four (13.3%) who reported the use of calcium supplements. Six (31.6%) reported altering dietary fiber, five (26.3%) reported altering caloric intake, five (26.3%) reported altering sodium intake, one (5.3%) reported altering caffeine intake, and four (21.0%) reported other behaviors such as decreasing sugar or alcohol consumption or use of algi supplements.

High risk behaviors. One (3.3%) subject reported the use of tobacco products and reported no attempts to decrease or quit tobacco use. Six (20.0%) reported consumption of more than two alcoholic drinks in one day. Four (66.7%) of those six reported they were trying to decrease or quit their use of alcohol. The type of interventions they reported using were mental interventions (75.0%) and physical interventions (50.0%).

Subjects reported taking anywhere from one to 12 different medications over a period of one day. This included both prescribed and over-the-counter medications. The mean number of medications taken by this sample was 5.43 with a standard deviation of 2.81.

Activity and safety. Twenty-three (76.7%) subjects reported exercising a minimum of three times per week for 20 - 30 minutes. Twenty-nine (96.7%) of the subjects reported use of a seatbelt when driving or riding in a car. All subjects were asked what interventions they used to prevent falls. Responses of the subjects who experienced falls are represented in Table 6. The 17 subjects who had not experienced falls reported using functional interventions, such as the use of hand rails ($n = 11$, 64.7%), physical interventions (i.e. alteration of activity or medication use) ($n = 2$, 11.8%), mental interventions of increased awareness or attentiveness ($n = 5$, 29.4%), and "other" or no interventions ($n = 5$, 29.4%).

Periodic health examinations. Twenty-seven (90.0%) of the subjects reported having a physical examination in the last 12 months. Twenty-five (83.3%) reported having a dental examination and seven (23.3%) reported having their hearing checked during that same time period. Twenty-four (80.0%) reported having their vision checked in the last two years.

All of the subjects reported having some type of cancer screening done in the last 12 months. The type of cancer screenings reported included screening of the mouth (73.3%), skin (60.0%), breasts (3.3), testes (73.3), prostate (93.3%), and colon/rectum (66.7%) with all of those subjects reporting fecal occult blood testing in the last 12 months. One (3.3%) subject reported having a biopsy performed but was uncertain of the type of cancer that was being screened. Nine (30.0%) of the subjects reported performing monthly self testicular examinations. The one female subject had a bilateral mastectomy therefore did not perform monthly self breast examination.

All subjects (100.0%) reported having their blood pressure checked by a health care

professional in the last two years. Twenty-eight (93.3%) of the subjects reported having their cholesterol checked in the last five years. One-hundred percent of the five subjects who reported having diabetes reported they had their diabetes checked by a health care professional in the last 12 months.

Twenty-three (76.7%) of the subjects reported obtaining an influenza vaccine in the last 12 months and a pneumonia vaccine at least once in their lives. They also reported that other immunizations, such as Tetanus or Diphtheria, were up-to-date.

Suppliers of Self-Care Information

At the end of parts II, III, and IV of the interview questionnaire subjects were asked who supplied them with their self-care information for the items that were addressed in that part. Table 9 shows reported frequencies and percents of suppliers of self-care information according to the dimension of self-care.

Subjects most frequently reported primary lay relationships (100.0%) as their supplier of self-care information for the functional tasks of ADLs and IADLs. Within primary lay relationships all subjects reported self (100.0%) as supplier over family (26.7%) and friends (16.7%). The media (53.3%) was the second most reported supplier of self-care information for functional activities followed by professional health care (50.0%). The least reported supplier of self-care information for functional activities was secondary lay relationships at 26.7% with organized peer support groups at 6.7%.

Professional health care (100.0%) was reported as the most frequent supplier of self-care information for acute and chronic physical conditions common to older adults. The second most reported supplier was the media (83.3%) followed by primary lay relationships (80.0%) with self being reported by 76.7% of the subjects and both family and friends being reported by 13.3%. The least reported supplier of self-care information for physical conditions was secondary lay relationships at 40.0% with local community and organized peer support groups at 13.3% respectively.

Table 9
Suppliers of Self-Care Information According to Self-Care Dimension (N= 30)

Supplier	Self-Care Dimension					
	Functional		Physical		Mental/Social	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Primary lay relationships	30	100.0	24	80.0	28	93.3
Family	8	26.7	4	13.3	19	63.3
Friends	5	16.7	4	13.3	13	43.3
Self	30	100.0	23	76.7	25	83.3
Secondary lay relationships	8	26.7	12	40.0	20	66.7
Local community	5	16.7	4	13.3	13	43.3
Organized peer support group	2	6.7	4	13.3	2	6.7
Social organizations/associations	3	10.0	5	16.7	13	43.3
Professional health care	15	50.0	30	100.0	4	13.3
Media	16	53.3	25	83.3	15	50.0
Other	0	0.0	0	0.0	0	0.0

For mental/social conditions primary lay relationships (93.3%) were reported as the most frequent supplier. Within this category self was reported as supplier by 83.3%, family by 63.3%, and friends by 43.3%. The second most reported supplier of self-care information for mental/social conditions were secondary lay relationships (66.7%) with local community and social organizations/associations equally reported at 43.3% followed by organized peer support groups at 6.7%. Media (50.0%) was third most reported

supplier of self-care information for the mental/social dimension. The least reported supplier was professional health care at 13.3%.

Tools of Self-Care Management

. At the end of parts II, III, and IV of the interview questionnaire subjects were asked what tools they used to manage their care for the items that were addressed in that part. Table 10 shows reported frequencies and percents for tools of self-care management according to the dimension of self-care.

Subjects' most frequently reported tools for the management of functional tasks of ADLs and IADLs were in the "Other" (70.0%) category. Responses placed in this category included life experiences (66.7%) and social interactions (6.7%). The second most reported tools were processes (56.7%) followed by printed media (50.0%). Within processes, professional health care instructions were reported by 50.0% of the subjects and of the printed media, newspapers were reported by 40.0% of the subjects as tools of self-care management. The least reported tools of self-care management for functional activities were systems at 30.0%.

The most frequently reported tools for self-care management of acute and chronic physical conditions common to older adults were processes (100.0%) with professional health care instructions being reported by 96.7% of the subjects, lectures and seminars being reported by 30.0%, and demonstrations by 10.0%. Printed media (86.7%) was the second most reported tool with newspapers (66.7%) and magazines (60.0%) being reported as the two most frequently used tools of printed media. The third most frequently used tool for self-care management of physical conditions was electronic media at 40.0% with television (40.0%) being the most frequently reported tool of electronic media. Responses that were placed in the "Other" category included life experiences(13.3%), social interactions (6.7%), self-monitoring equipment (13.3), and

Lifeline program (3.3). The least reported tools for self-care management of physical conditions were systems at 16.7%.

Table 10

Tools of Self-Care Information According to Self-Care Dimension (N = 30)

Tools	Self-Care Dimension					
	Functional		Physical		Mental/Social	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<u>Printed media</u>	15	50.0	26	86.7	12	40.0
Newsletters	5	16.7	6	20.0	2	6.7
Newspapers	12	40.0	20	66.7	9	30.0
Pamphlets	0	0.0	1	3.3	0	0.0
Magazines	7	23.3	18	60.0	6	20.0
Books	1	3.3	1	3.3	2	6.7
Advertisements	0	0.0	2	6.7	0	0.0
<u>Electronic media</u>	11	36.7	12	40.0	8	26.7
Television	9	30.0	12	40.0	7	23.3
Radio	1	3.3	2	6.7	1	3.3
Videos	0	0.0	0	0.0	1	3.3
CAIs	2	6.7	0	0.0	0	0.0
Online services	1	3.3	0	0.0	0	0.0
Advertisements	1	3.3	0	0.0	0	0.0

Table 10

Tools of Self-Care Information According to Self-Care Dimension (N = 30) -- Continued

Tools	Self-Care Dimension					
	Functional		Physical		Mental/Social	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<u>Systems</u>	9	30.0	5	16.7	1	3.3
Log books/health diaries	2	6.7	3	10.0	1	3.3
Telephone reminders	0	0.0	0	0.0	0	0.0
Medication reminders	8	26.7	1	3.3	0	0.0
Schedules/calendars	0	0.0	1	3.3	0	0.0
<u>Processes</u>	17	56.7	30	100.0	9	30.0
Professional health care instructio	15	50.0	29	96.7	4	13.3
Lectures/Seminars	4	13.3	9	30.0	6	20.0
Demonstrations	0	0.0	3	10.0	0	0.0
<u>Other</u>	21	70.0	11	36.7	28	93.3

The most frequent responses for tools of self-care management for mental conditions and relationships were in the category of "Other" (93.3%) and included such responses as life experiences (76.7%), social interactions (3.3%), support groups(6.7%), audio tapes (6.7%), pets (6.7%), and spiritual support(3.3%). Printed media (40.0%) was the second most frequently reported tool with newspapers being reported as tools by 30.0% of the subjects. Processes (30.0%) was the third most frequently reported tool with lectures and seminars being reported as tools by 20.0% of the subjects. The least reported tools of self-care management for the mental/social dimension were systems at 3.3%.

Summary

Results from the MMS (Folstein, Folstein, & McHugh, 1975) and the interview questionnaire were presented for the sample with descriptive statistics. Data on self-care behaviors were presented according to functional, physical, mental/social, and health promotion/disease prevention dimensions. Suppliers of self-care information and tools of self-care management were presented according to functional, physical, and mental/social dimensions.

In the next chapter, results of the study are reviewed and conclusions based on the findings are discussed. Performance of the researcher developed interview questionnaire is also reviewed and recommendations for instrument refinement are offered. Limitations of the study along with implications for nursing practice and recommendations for future research are addressed.

CHAPTER V

CONCLUSIONS

Review of Study

This study was designed to investigate the following three research questions: 1) What are the self-care behaviors practiced by community-based military retirees age 65 and older? 2) Who are the suppliers of self-care information to community-based military retirees age 65 and older? 3) What self-care management tools are used by community-based military retirees age 65 and older? Howe's (1994) Self-Care Case Management model was used as the guiding framework for this inquiry. Folstein, Folstein, and McHugh's (1975) Mini-Mental State Examination (MMS) was used to screen potential subjects for cognitive impairment prior to inclusion in the study sample and a researcher developed structured interview questionnaire was used to guide data collection on self-care behaviors, suppliers of self-care information, and self-care management tools. Selected personal characteristics of the sample were also examined. Descriptive statistics were used to analyze the data and results presented. Conclusions drawn from the data are presented in the following paragraphs.

Discussion

Discussion of results is presented according to the dimensions of self-care that were assessed (functional, physical, mental, social, financial, and health promotion/disease prevention) and according to the concepts within Howe's (1994) model of self-care case management (customer, suppliers, and tools).

Sample

The identified customers of this study were the subjects surveyed in the final sample. The description of the final sample shows an average subject profile to be that of a 71.4

year old Caucasian male who was married, living in a two person household and being a retired Air Force commissioned officer with 25.7 years of military service, a bachelor's degree, and an annual household income between \$25,001 - \$50,000. This researcher believes the representativeness of gender is reflective of military retirees who are age 65 and older since primarily men served in the armed forces in the late 1940s through 1960s (the time frame when most subjects would have served).

A comparison between this study's sample and the findings of the American Association of Retired Persons (AARP) and the Administration on Aging (AoA) that were presented in *A Profile of Older Americans* (1993) shows the following. A similar percentage of the sample (96.7%) were non-Hispanic as compared to the 96% reported in *A Profile of Older Americans* (AARP & AoA, 1993). However, unlike the findings reported in *A Profile of Older Americans* (AARP & AoA, 1993) other minorities were not represented within the 96.7% of non-Hispanics in this study. A greater percentage of the final sample were married (83.3%) as compared to 76% of men and 41% of women in the AARP and AoA (1993) report. The one female subject in this study was not married. These data support their statement that older men are more likely to be married than older women. Eighty percent of the subjects in this study lived in family arrangements as compared to the 67% reported in the AARP and AoA (1993) publication. This reflects the same percentage who were married at the time of the study.

While the AARP and AoA (1993) reported the median income of households containing families headed by persons who were age 65 or older as \$25,315, 43.3% of this study's sample reported an annual household income of \$25,001 - \$50,000 and 46.7% reported annual household incomes greater than \$50,001. This clearly illustrates this sample was of a higher income level than the larger population of older adults. Only 12% of the AARP and AoA (1993) sample were still in the work force whereas 16.7% of this study's sample was still employed in a part-time or full-time capacity. Another significant

finding is that 66.7% of this study's sample possessed a bachelor's degree or more as compared to 12% reported in *A Profile of Older Americans* (AARP & AoA, 1993).

Overall, the subjects in the study's sample were married Caucasian males. This sample failed to sufficiently represent ethnic minorities and possibly older adults who lived alone in the community setting. The subjects in this study were of a higher income and education level and a larger percentage of the sample continued to be active in the work force than was found in the larger population of older adults. This researcher believes these findings have bearing on the results that were reported for self-care behaviors, suppliers of self-care information, and tools of self-care management and they must be taken into consideration when interpreting results and discussing implications of these research findings. Another consideration is that the retired enlisted members were not proportionately represented in the final sample. The enlisted force is significantly larger than the officer corps yet, only 26.7% of the final sample were retired enlisted.

Self-Care Behaviors

Functional

Part II of the interview questionnaire addressed the functional dimension of self-care behaviors, specifically activities of daily living (ADL) and instrumental activities of daily living (IADL). Subjects reported on 15 different functional activities. Findings showed that the majority of subjects had made no changes in the way they performed most ADLs and IADLs and that they were independent in performing these activities. When interventions were used to take care of and continue performance of a functional activity subjects relied more on functional interventions than other types of interventions. One example was the use of a hearing aid or glasses to enable oneself to continue driving a car.

The use of social interventions by this sample for handling money and meal preparation were directly related to the composition of the sample in this study. Many subjects who reported higher income levels also reported the use of community

professionals (i.e. stock brokers or financial advisors) to assist them in the management of their financial portfolios. Also, those who reported social interventions for the preparation of meals reported having spouses prepare their meals and/or going out to eat rather than preparing their own meals. This finding may reflect cultural influences, subjects' lifelong eating patterns, or socialization patterns (Ebersole & Hess, 1994; Robinson, 1994).

The use of mental and physical interventions were also aimed at maintaining independence and reflected modification of task accomplishment rather than dependency on others. Examples were the use of routines in order to remember one's own medications or regulating one's own activity in order to accomplish a task independently.

Physical

Part III of the interview questionnaire addressed the physical dimension of self-care behaviors, specifically acute and chronic conditions common to older adults. Subjects reported on 15 physical conditions. Findings showed that a large number of subjects reported visual (96.6%) and hearing (46.6%) impairments. Additionally, subjects reported taking 5-6 different medications per day. These findings could help explain why the number of subjects reporting falls (43.3%) exceeded the National Institute on Aging's estimate that one-third of the elderly, age 65 and older, who live at home, fall (Ebersole & Hess, 1994). To manage impairments with vision and hearing and to prevent recurrent falls subjects applied functional interventions such as altering tasks and using equipment or assistive devices. No subjects reported altering medications to prevent falls.

The following statistics represent the percent of subjects who reported experiencing the 12 remaining physical conditions: tinnitus (46.6%), sinusitis (40.0%), cough/respiratory flu (16.6%), arthritis (63.3%), osteoporosis (6.6%), heart disease (46.6%), hypertension (50.0%), circulation problems in the lower extremities (16.6%), diabetes (16.6%), upset stomach (33.3%), upset bowels (16.6%), and pain (53.3%). Most of the percentages were higher than those found in the literature. One possible

explanation for this could be double reporting. Subjects who experienced sinusitis may have also reported in the category of cough/respiratory flu. Subjects with heart disease or diabetes may have also reported in the category of circulation problems in the lower extremities. Finally, subjects may have reported pain associated with a particular condition in the category of the condition as well as the pain category.

As anticipated, the most frequently used interventions for the management of the preceding physical conditions were physical interventions such as altering diet, fluid, activity or taking medications. Interventions of this type were reported most frequently for 10 of the conditions addressed. Social interventions were the second most frequently reported interventions and were frequently associated with the use of physical interventions. This could be attributed to the fact that use of a professional health care provider was categorized under social interventions while the responses categorized under physical interventions were therapies commonly prescribed by professional health care providers that the subjects were applying in self-care.

Tinnitus was the only physical condition that subjects most frequently reported using mental interventions. The majority of subjects reported altering their behavior and trying to ignore the condition since there frequently was no known cause or cure for the condition.

Even though the category of "Other" was not frequently reported by subjects the researcher feels it is important to address. For four of the physical conditions some subjects reported in the "Other" category which meant they did nothing or made no change. It was the impression of the researcher that these subjects were making an active choice not to manage the condition or were unaware of ways the condition could be managed.

From these findings it is evident that physical interventions followed by social interventions were most frequently used by this sample in the management of the acute and chronic physical conditions addressed.

Mental/Social

Part IV of the interview questionnaire addressed the mental and social dimensions of self-care behaviors, specifically mental conditions common to older adults and social relationships. Subjects reported on four mental conditions and primary and secondary relationships. Findings showed that 40.0% of the subjects experienced anxiety, 20.0% experienced depression, 10.0% experienced confusion, and 10.0% isolation. These findings are not consistent with Ebersole and Hess' (1994) statement that "depression is the problem of greatest frequency and magnitude in the aged population" (p.549) yet, do lend support to Reichel's (1995) assertion that anxiety and depressive disorders are more common among clients seen in clinics than are confusion disorders.

For the management of these mental conditions subjects most frequently reported using mental interventions such as increasing knowledge, monitoring the situation, altering behavior, or seeking spiritual support. The use of physical and social interventions were reported second most frequently. No functional interventions were reported. One subject reported doing nothing for the management of confusion. It was the impression of the researcher that this individual was not concerned about the condition and therefore chose to do nothing at this time.

Even though subjects reported using all interventions (going places, share experiences, acquire new knowledge/skills, volunteer, and join groups/clubs) in the maintenance of relationships, the interventions used for the maintenance of primary relationships (family and friends) differed from the interventions used for the maintenance of secondary relationships (community). Sharing experiences and going places were more commonly used in primary relationships while joining groups or clubs were more commonly used in secondary relationships. This might be explained by the fact that primary relationships are more intimate, allowing the uniqueness of the individual to be expressed, as well as requiring the giving of oneself. Whereas, secondary relationships are more limiting in the expression of the individual and encourage solidarity of the

individual with the community as demonstrated through participation and membership in groups or clubs.

Health Promotion/Disease Prevention

The health promotive and disease preventive behaviors reported by this sample demonstrated an awareness of and concern for the current health promotion/disease prevention priorities. The self-care behaviors reported for health promotion and disease prevention were working towards many of the goals that were established for older adults in *Healthy People 2000* (U.S. DHHS, PHS, 1991). Additionally, the periodic health examinations practiced by the majority of the subjects were in compliance with the recommended preventive care timeline found in the U.S. Department of Health and Human Services' *Clinician's Handbook of Preventive Services: Put Prevention Into Practice* (1994).

Suppliers of Self-Care Information

The key suppliers of self-care information for the management of functional activities and mental/social conditions were primary lay relationships (100.0% and 93.3% respectively) followed by the media. Within the category of primary lay relationships subjects consistently identified themselves as the number one supplier of self-care information. Subjects in this study were self-reliant as were those in Coons, McGhan, and Bootman's (1989) study and obtained information for the management of functional activities and mental/social conditions on their own or through the media as did subjects in the studies by Green (1982) and Ayers (1989).

The key suppliers of self-care information for the management of physical conditions were professional health care providers (100.0%), again, followed by the media as the second most reported supplier of self-care information. These findings seem to parallel those found in the available literature on the management of chronic physical conditions. Yet, a degree of self-reliance can be seen in the 53.3% who reported media as the second most accessed supplier of self-care information. Thus, supporting the findings of Green

(1982) and Ayers (1989) once more. Implications related to the use of media as a supplier of self-care information will be discussed with practice implications.

Tools of Self-Care Management

The most frequently reported tools of self-care management for functional activities and mental/social conditions were categorized under the response of "Other" (70.0% and 93.3% respectively). Within the category of "Other", life experiences were the most frequently reported tools of self-care management. This finding is congruent with the self-reliant nature of this study's subjects and demonstrates self-care management through trial-and-error. The use of trial-and-error as a tool of self-care management by these subjects highlights a tool that is inherently recognized by all individuals nonetheless, neglected in the literature.

The second most reported tools of self-care management for functional activities were processes (56.7%). Interestingly, this finding shows that even though subjects supplied their own self-care information for functional activities, they turned to professional health care providers for assistance in managing their care in relation to those activities. Another interesting finding from the results demonstrates that subjects continued to be self-reliant in managing mental/social conditions with the tools of media (40.0%) and processes (30.0%) and turned to professional health care providers (20.0%) and systems (3.3%) the least. Perhaps this is a consequence of the social stigma attached to the mental conditions assessed or due to the limited amount of time professional health care providers allot for client interactions (routinely 15 minutes per appointment in the Military Health Services System). Additionally, professional health care providers tend to be focused on the single problem that brought the client into the clinic and fail to address the client from a wholistic perspective of care, thus minimizing or negating the clients mental and social conditions.

The most frequently reported tools of self-care management for physical conditions were processes (100.0%) such as professional health care instructions, lectures and

seminars, and demonstrations. Professional health care instructions were reported by 96.7% of the subjects as the most commonly used tool for managing physical conditions. Printed media (86.7%) was reported as the second most used tool with newspapers (66.7%) being the number one type of media used to self-manage physical conditions. These findings are consistent with the identification of professional health care providers and media as the primary and secondary suppliers of self-care information. It stands to reason, if the primary supplier of self-care information is a professional health care provider then much of the information supplied is either prescribed therapies or not readily available in a particular client's situation and the client will use the professional health care provider as a tool of self-care management in relation to the information received. The use of media as a tool of self-care management also holds implications for practice; these will be discussed with the implications for nursing practice.

Limitations

Setting, Selection, and Sample

Results of this study cannot be generalized to the target population of military retirees age 65 and older. They can only be generalized to military retirees of similar demographics and settings. The study was conducted in a single hospital in the southwestern United States and limited to two outpatient settings. Selection of subjects was accomplished through convenience sampling and was non-random. As a result, only those subjects identified within the two outpatient settings on the days and times that the researcher was present and who were willing and able to participate in the study were selected. Additionally, only subjects who obtained a score of 27 or greater on the MMS (Folstein, Folstein, & McHugh, 1975) were retained in the subject pool, thus excluding subjects with cognitive impairment. The research was conducted as a pilot study with a small sample size ($N = 30$). The ethnic mix of the sample was not representative of the target population (non-Hispanic minorities were under-represented and Caucasians were

over-represented) and retired enlisted members were not proportionately represented. Therefore, interpretation of the data from statistical analyses is limited.

Data Collection

The method of data collection used in this study presents two prominent limitations. First, data was collected at two different points in the research process. At first contact with subjects the MMS (Folstein, Folstein, & McHugh, 1975) was administered and a second contact was required for administration of the interview questionnaire. The more points of contact required for data collection the greater the possibility of subject mortality (Burns & Groves, 1993). Secondly, the time for administration of the interview questionnaire was lengthy. It took an average of 46.5 minutes to administer the interview questionnaire. Two of the four subjects in the subject pool cited the time required for the second interview as the reason for discontinuing participation in the study. The other two provided no explanation. Despite the loss of these subjects from the subject pool the researcher was able to obtain new subjects to ensure the desired sample size ($N = 30$).

Instrumentation

The researcher was able to provide consistency in administration of the MMS (Folstein, Folstein, & McHugh, 1975) and the interview questionnaire by adhering to the interviewer instructions. Additionally, the use of the printed alternate wording, transitional statements, and charts were applied as outlined in the data collection plan in Chapter III. Thus the researcher feels reliability of instrumentation was maintained throughout the data collection process.

Concerns arise when addressing the validity of the interview questionnaire. While the instrument did indeed address the concepts of self-care behaviors, suppliers of self-care information, and tools of self-care management it did not sufficiently identify the self-care behaviors of the subjects. The instrument sufficiently identified the self-care behaviors of subjects related to functional activities and social relationships. But, it only identified the self-care behaviors related to physical and mental conditions for subjects who reported

experiencing a condition. It failed to identify the preventative behaviors of subjects who did not experience the physical or mental conditions assessed. Suggestions for minimizing the limitations related to instrumentation are offered in recommendations for instrument refinement.

Implications for Nursing

Practice

Despite the limitations of this study, the findings do have implications for practice. The three most important implications for practice are: 1) an awareness of current self-care behaviors would allow the content of health promotion/disease prevention programs to be tailored to the needs of older clients; 2) the most commonly used suppliers of self-care information should be the primary means of disseminating information and the most commonly used tools of self-care management should be safe and accessible; and, 3) nurses and other health care providers must form partnerships with clients in order to attain the goals of self-care case management.

An understanding of older military retirees' self-care behaviors provides direction as to what content should be addressed in health promotion/disease prevention programs that target that population. Existing Military Health Services System (MHSS) programs and the increasing number of civilian programs serving military retirees who are age 65 and older need to review the topical content of their programs. Content of these health promotion/disease prevention programs should address identified needs and should reflect the goals of *Healthy People 2000* (U.S. DHHS, PHS, 1991) and the recommendations of the U.S. Department of Health and Human Services' *Clinician's Handbook of Preventive Services: Put Prevention Into Practice* (U.S. DHHS, PHS, 1994) program.

Several of the existing health promotion/disease prevention programs are focused on the workplace setting or are community-based. Yet, as illustrated by this study, clients do not always obtain self-care information through the suppliers the health care profession uses to disseminate information. Health promotion and disease prevention

programs should focus their efforts on reaching their target populations through the most commonly used suppliers of self-care information. This is not to say these programs should be limited in using those suppliers. It is to say the most commonly used suppliers should be the initial and primary source of supplying self-care information and that these sources could be used to educate customers of alternative suppliers of self-care information.

A significant implication for supplying self-care information and providing tools of self-care management relates to the use of popular printed media, particularly newspapers. Nurses have a wonderful opportunity for impacting the self-care case management of many people through the publication of self-care information and tools of self-care management in local newspapers. By acknowledging newspapers as a supplier of self-care information nurses can provide the public with safe and correct self-care information and tools of self-care management through articles written in lay terms. Nurses should also explore other forms of media that the public can independently access and begin contributing self-care information for use in those media forms.

A final implication for practice relates to nursing's and the overall health care system's approach to self-care management. Foundational to the concept of self-care case management is the acknowledgment of the client as the person in control of the decisions impacting his/her self-care (Howe, 1994). Nurses and health care providers must recognize this and be willing to form partnerships with clients in order to supply self-care information and provide tools of self-care management yet, at the same time allow the decisions related to self-care to remain with the client. This is sometimes difficult to do when it is presumed an individual client lacks the necessary information or tools to manage his/her self-care or make proper decisions. In this situation is the responsibility of nursing and other health care providers to provide the necessary information and tools. If a client lacks the capacity to utilize the information and tools provided or to is unable to make a decision, then another model of case management other than self-care is indicated.

Education

Implications for nursing education are more generalized than those for practice.

Three implications for education are: 1) nursing needs to continue to explore theories and models of self-care; 2) practical application of health promotion/disease prevention concepts should be taught; and, 3) self-care case management must be included in the content of case management courses.

The conception of the individual person as a being capable and willing to care for oneself is found in numerous nursing theories and models; Roy (Chinn & Kramer, 1991), Orem (Chinn & Kramer, 1991; Gast, et al., 1989), Carnevali and Patrick (1993), and Howe (1994) are but a few examples. Through continued exploration of these nursing theories and models in higher education more nurses will be exposed to this conception of the individual person and consider incorporation of this concept into their personal nursing philosophies and daily practice.

Another implication for nursing education relates to what is currently being taught on the models of health promotion/disease prevention and on case management. Nursing education programs must begin addressing models of health promotion from a perspective of practical application. While providing education on the philosophical and theoretical concepts of health promotion and disease prevention is important, failure to address the practical application of these concepts leaves nurses ill equipped to apply the concepts in the practice setting. Additionally, the education being provided on case management frequently fails to address self-care case management as a model of case management. This is astounding since self-care case management is understandably the largest and most cost effective model of case management available for the management of health. Self-care case management needs to be incorporated in the courses that teach models of case management.

Recommendations

Future Research

Repetition of this study with a larger sample in more than one geographical location and across multiple settings (i.e. several outpatient clinics and wellness centers) would be beneficial. A larger sample size would provide better representation of the target population and offset some of the limitations found in this study. Additionally, conducting this study with dependents of military retirees and within the civilian community would provide information as to whether the findings of this study are similar or different than those that would be found in other cohorts of older adults. This could have implications for the generalizability of this study's findings beyond the present sample or the target population of military retirees age 65 and older. The use of randomization in the selection of subjects would also increase generalizability of findings.

Another consideration for future research would be the inclusion of subjects with cognitive impairment with the use of a proxy during the data collection process or to conduct a separate study tailored to that population. The researcher feels that a study of cognitively impaired older adults' self-care behaviors, suppliers of self-care information, and tools of self-care management would differ significantly from those reported in this study because their natural boundaries and capabilities are limited by their cognitive impairment and because other people (caregivers) are making their health care decisions for them.

The following questions were raised as a result of this study and are recommended areas for investigation in future research studies.

1. What self-care behaviors are practiced by community-based military retirees age 65 and older to prevent physical and mental conditions common to older adults?
2. Are there relationships between specific suppliers of self-care information and tools of self-care management?

3. What reasons do community-based military retirees age 65 and older cite for the selection of specific suppliers of self-care information and tools of self-care management?

Instrument Refinement

The researcher feels there are various aspects of the interview questionnaire that should be refined. The wording of questions and the question order need to be reviewed. Throughout the data collection process the researcher found it necessary to use alternate wording for more than half of the subjects. Rewording the questions with the alternate wording would simplify the interview process. Additionally, some of the questions should be arranged in different order, particularly those in Part II (functional activities) to provide a smoother flow of questioning and ease of responses for the subjects.

Another area for refinement is Part III (physical conditions) and Part IV (mental conditions) of the interview questionnaire. At present the interview questionnaire only accommodates responses on self-care behaviors from subjects who experience the physical and mental conditions assessed. Questions need to be restructured to allow responses from subjects on the self-care behaviors used to prevent physical and mental conditions common to older adults. This could be accomplished through the addition of more questions with skip patterns. This would effect the length of the interview questionnaire and would increase the time needed for administration of the questionnaire resulting in possible subject burden with older adults.

A final consideration for instrument refinement is to divide the existing instrument into several instruments. The existing instrument could be divided into several instruments according to the dimensions of self-care (functional, physical, mental/social, and health promotion/disease prevention) or along the concepts of self-care behaviors, suppliers of self-care information, and tools of self-care management. This would allow future studies to have an in-depth focus on a specific dimension of self-care or concept of self-care case management. However, it would not provide as comprehensive results as the existing instrument provides.

Summary of Study

This study addressed the research questions: 1) What are the self-care behaviors practiced by community-based military retirees age 65 and older? 2) Who are the suppliers of self-care information to community-based military retirees age 65 and older? 3) What self-care management tools are used by community-based military retirees age 65 and older? A review of the literature revealed few studies addressed the self-care behaviors of older adults within the context of health and everyday living. The review also revealed fewer studies addressed older adults' suppliers of self-care information and tools of self-care management. No studies were found that addressed the target population.

Howe's (1994) model of self-care case management was used as the guiding framework for this study. The MMS (Folstein, Folstein, & McHugh, 1975) was used to screen potential subjects for cognitive impairment and an interview questionnaire developed by the researcher was used to gather data on self-care behaviors, suppliers of self-care information, and tools of self-care management. Reliability and validity of both instruments were addressed.

A convenience sample of 30 subjects was obtained from two outpatient settings of a military medical treatment facility in the southwestern region of the United States. Interviews were conducted with all subjects at the medical treatment facility by the researcher. Descriptive statistics and the Statistical Package for the Social Sciences (SPSS) were used to analyze the data. Results were reported and discussion of findings, limitations of the study, implications for nursing, and recommendations for future research were provided.

Though the findings of this study can only be generalized to military retirees with similar demographics and in similar settings as the one where this study was conducted, the results of this study do illustrate there is value in knowing the self-care behaviors, suppliers of self-care information, and tools of self-care management of older military

retirees. The MHSS and civilian programs that provide health promotion/disease prevention information and tools to military retirees who are 65 and older have a vested interest in knowing the findings of research studies such as this one and can use research findings to develop programs and provide services. Further research in this area of inquiry is indicated for appropriate decision-making regarding program development and the provision of services.

Nursing, as a discipline, needs to focus its resources not only on the restoration and maintenance of the current health of those it serves but on health promotion and disease prevention as well. With the growing number of older adults in today's society more efficient and cost effective ways of providing health care for older adults is needed. Howe's (1994) self-care case management model is one possible solution. By acknowledging that older adults are capable and willing to manage their own health and that they retain control over decisions impacting their care, nurses can then become suppliers of self-care information and/or be utilized as tools of self-care management thereby expanding older adults natural boundaries and capabilities. All of this would work towards the goal of maintaining an optimal level of health and well-being among older adults.

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APPENDIX A
UNIVERSITY OF COLORADO MULTIPLE
INSTITUTIONAL REVIEW BOARD (COMIRB)
LETTER OF APPROVAL

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD

Office of the COMIRB

Participating Institutions

Room 1810C
Campus Box C-290
4200 East Ninth Avenue
Denver, Colorado 80262
(303) 270-8081
FAX (303) 270-8540

The Children's Hospital
Colorado Prevention Center
Denver Health & Hospitals
University of Colorado Health Sciences Center
Department of Veterans Affairs Medical Center, Denver
University Hospital

TO: KATHRYN A. DILLOW, BSN, RN BOX C288 DATE: 12-27-95
FROM: COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD
YOUR APPLICATION ENTITLED: "SELF CARE BEHAVIORS OF MILITARY RETIREES"

COMIRB PROTOCOL NUMBER: 95-687

Has been unanimously approved by the COMIRB 12-22-95 which includes your protocol and consent form/revised consent form. The COMIRB will require a follow up on the status of this project within a 12 month period from the date of approval unless a restricted approval applies. If you have a restricted or high risk protocol, specific details will be spelled out with a special set of instructions. We shall send you a form to be completed to define the status of your project.

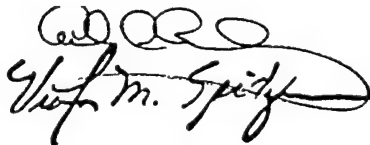
The investigator bears the responsibility for obtaining from all patients and subjects "Informed Consent" as approved by the COMIRB.

It is also your responsibility to inform the COMIRB immediately of any deaths, serious complications or other untoward effects of this research.

Please notify the COMIRB if you intend to change the experimental design in any way.

As of July 1, 1983, the COMIRB REQUIRES that the subject be given a copy of the consent form which includes the name and telephone number of the investigator.

Any questions about the COMIRB's action on this project should be referred to the Secretary Desiree Fernandez or Vicky Starbuck (270-8081 or UCHSC BOX C-290).



Adam Rosenberg, M.D.
Victor Spitzer, Ph.D.
Chairmen
Colorado Multiple Institutional Review Board

APPENDIX B

UNITES STATES AIR FORCE ACADEMY HOSPITAL

LETTER OF APPROVAL

DEPARTMENT OF THE AIR FORCE
10th Medical Group
USAF Academy, Colorado

20 Dec 95

MEMORANDUM FOR KATHRYN A. DILLOW, CAPT, USAF, NC
6001 S. Yosemite St. Apt. D-207
Greenwood Village, CO 80111

FROM: 10MDG/SGH

SUBJECT: Proposed Research Project

1. We see no problem allowing you to conduct your proposed research here at the Academy Hospital. However, our legal counsel addressed the issue of compliance with AFI 36-2601, a copy of which is enclosed. It is incumbent on you to comply with this AFI prior to starting your research.
2. Once you have shown compliance with this AFI, you are free to conduct your research survey as outlined in your protocol.

cy: Col Charles K. Maffet
Commander, 10MDG



FREDERICK HORNICK, Col, USAF, MC
Chief, Professional Services

APPENDIX C
SUBJECT CONSENT FORM

INFORMED CONSENT

You are being asked to participate in a research study investigating the self-care behaviors of military retirees ages 65 and older. This research is being carried out by a University of Colorado Health Science Center, School of Nursing graduate student with the permission of this medical treatment facility.

The purpose of this study is to identify how military retirees take care of themselves, who supplies them with self-care information, and what tools they use to manage their self-care.

Your participation in this study is confidential, to the extent permitted by law. You will be assigned a code number and only the researcher will have knowledge of your name and code number. The information you provide will be coded and will not be linked to your identity. All responses will be held in confidence by the researcher.

Disclosure of information is voluntary. You may elect not to participate in this study, withdraw from this study, or decline to answer any questions at anytime without any negative consequences to you or the care you receive. A risk of participation in this study is the possibility that sensitive issues may be raised. Your involvement in this study will have no direct benefits to you but will contribute to nursing knowledge and hopefully generate information that will aid in the development of health promotion and illness prevention programs.

If you have any questions about this study or your rights as a research subject you can contact Major Kathryn Dillow, R.N. through her academic advisor, Bonita Cavanaugh, Ph.D., R.N., at the University of Colorado Health Sciences Center, School of Nursing, (303) 270-7680.

I hereby give my informed consent to participate in this study.

Signature

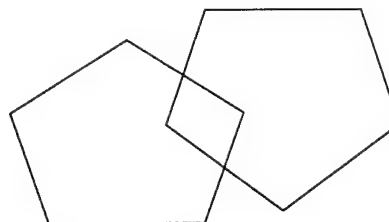
Date

APPENDIX D
MINI-MENTAL STATE EXAMINATION (MMS)
(INSTRUMENT, INSTRUCTIONS,
AND SCORING GUIDELINES)

MINI-MENTAL STATE EXAMINATION (MMS)

Maximum Score	Score	
		Orientation
5	()	1. What is the (year) (season) (date) (day) (month)?
5	()	2. Where are we: (state) (county) (town) (hospital) (floor)?
		Registration
3	()	3. Name 3 objects: 1 second to say each. Then ask the patient all 3 after you have said them.
		Give 1 point for each correct answer. Then repeat them until he learns all 3. Count trials and record.
		Trials: _____
		Attention and Calculation Trial
5	()	4. Serial 7's. 1 point for each correct. Stop after 5 answers. Alternatively, spell "world" backwards, if cannot subtract.
		Recall
3	()	5. Ask for 3 objects repeated above. Give 1 point for each correct.
		Language
9	()	6. Name a pencil and a watch. (2 points)
		7. Repeat the following, "No ifs, ands, or buts." (1 point)
		8. Follow a 3-stage command: "Take a paper in your right hand, fold it in half, and put it on the floor." (3 points)
		9. Read and obey the following: "Close your eyes." (1 point)
		10. Write a sentence. (1 point)
		11. Copy design. (1 point)

TOTAL SCORE



Folstein, M.F., Folstein, S.E., & McHugh P.R. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatric Research, 12(3), 189-198.

**INSTRUCTIONS AND SCORING GUIDELINES
FOR THE MINI-MENTAL STATE EXAMINATION (MMS)**

1. Ask for the date. Then specifically ask for the parts omitted, e.g., "Can you also tell me what season it is?" Give one point for each correct answer.
2. Ask in turn "Can you tell me the name of this hospital?" (town, county, etc.). Give one point for each correct answer.
3. Ask the patient if you may test his/her memory. Then say the names of three unrelated objects, clearly and slowly, about one second for each. After you have said all three, ask the client to repeat them. This first repetition determines the client's score (0-3) but keep saying the three objects until the client can repeat all three, up to six trials. If the client does not eventually learn all three, recall cannot be meaningfully tested. Give one point for each of the three objects correctly repeated by the client the first time. No further points for repeated attempts.
4. Ask the client to begin with 100 and count backwards by increments of seven. Stop after five subtractions (93, 86, 79, 72, 65). Give one point for each correct subtraction. If the client cannot or will not perform this task ask him/her to spell the word "world" backwards. Score according to the number of letters in correct order.
5. Ask the client to recall the three objects named previously in item #3. Give one point for each object named.
6. Show the client a wrist watch and ask him/her to name the object. Repeat this process with a pencil. Give one point for each correctly named object (0-2).
7. Ask the client to repeat a sentence after you. Allow only one trial. Give one point if fully and correctly completed.
8. Give the client a piece of plain blank paper and give the 3-stage command. Give one point for each command followed.
9. On a blank piece of paper print, in letters large enough for the client to see clearly, the sentence "Close your eyes". Ask the client to read the sentence and do what it says. Give one point only if the patient carries out the activity.
10. Give the client a blank piece of paper and ask him/her to write a sentence. Do not dictate the sentence, it is to be written spontaneously. It must contain a subject and verb and be sensible. Correct grammar and punctuation are not necessary. Give one point if this task is accomplished correctly.
11. Give the client a clean piece of paper and ask him/her to copy a design of two intersecting pentagons. Give one point if each figure has 5 sides and the overlap is correct.

Folstein, M.F., Folstein, S.E., & McHugh P.R. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatric Research, 12(3), 189-198.

APPENDIX E
STRUCTURED INTERVIEW QUESTIONNAIRE
(INSTRUCTIONS, INSTRUMENT,
AND CHARTS)

Interviewer Instructions

1. Progress through the questionnaire in the order that questions appear.
2. Read all questions as worded. Questions may be repeated as necessary.
3. Only use alternative wording if the subject does not appear to understand a question. (Alternative wording is contained within parentheses and underlined.)
4. Record all responses on the questionnaire throughout the interview process.
5. Probe for further information if the subject's response seems incomplete or if you are uncertain of the response.
6. Read out loud to the subject all transitional statements as they appear. Transitional statements are **bolded**.
7. Record interview start/stop-times at the top of all questionnaires.
8. Complete the following steps before each interview.
 1. Welcome the subject to the interview.
 2. Review the subject's consent form and reverify consent to participate in the study.
 3. Ensure the interviewer and subject are the only two people in the room prior to the start of the interview.
 4. Ask the subject if he/she has any difficulty hearing. If yes, ensure the subject is using his/her hearing aid and/or sit to the side of subject where hearing is best.
 5. Read the following instructions out loud to the subject:

"During this interview I will be asking you questions about how you take care of yourself. It is a four-part interview and will take about 45-60 minutes to complete. The first part of the interview is about your background. The second part of the interview is about common day-to-day activities. The third part of the interview is about physical conditions common to older adults. And the fourth, and final, part of the interview is about personal feelings and support systems. Throughout the interview I will also be asking you questions about disease prevention and health care screening. Are you ready to begin the interview?"

6. Begin the interview.

IDENTIFICATION OF SELF-CARE BEHAVIORS, INFORMATION SUPPLIERS,
AND MANAGEMENT TOOLS

Subject # _____

Start Time _____

Stop Time _____

PART I: DEMOGRAPHIC/FINANCIAL

I will start the interview with some general questions. The answers you give to these questions will provide me with some information about your background.

1. Age: _____ years
2. Gender:
 1. Male
 2. Female
3. Ethnicity:
 1. Afro-American (Black)
 2. Asian or Pacific Islander
 3. Caucasian (White)
 4. Hispanic (Puerto Rican, Mexican, Latin American, Cuban)
 5. Native American (American Indian, Native Alaskan, Hawaii Native)
 6. Other (specify) _____
4. Marital status:
 1. Single
 2. Married
 3. Separated/Divorced
 4. Widowed
5. Number living in household: _____
6. Branch of service:
 1. Army
 2. Air Force
 3. Navy
 4. Marines
7. Category of rank:
 1. Enlisted
 2. Commissioned officer
 3. Warrant officer
 4. Officer: prior enlisted/warrant officer
8. Years of military service: _____
9. Current employment status
 1. Employed
 2. Unemployed
 3. Retired
10. Range of annual household income (show subject income chart):
 1. < \$10,000
 2. \$10,000 - \$25,000
 3. \$25,001 - \$50,000
 4. \$50,001 - \$75,000
 5. > \$75,000
11. Highest level of education:
 1. < High school
 2. High school diploma/GED
 3. Technical/trade school
 4. College courses/no degree
 5. Associate
 6. Bachelors
 7. Masters
 8. Doctorate

12. Do you have any health insurance besides Medicare?

1. Yes (--> go to 12a)
2. No (--> go to next part)

12a. Does it cover preventive health care (i.e. routine physicals, disease screening)?

1. Yes
2. No

PART II: FUNCTIONAL

We are now beginning part two of the interview. The following questions are about common day-to day activities. I am interested in how you take care of these activities and what you do to help yourself continue performing these activities.

13. How do you take care of your heavy housework (scrubbing floors or washing windows)?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

14. What things do you do to help yourself continue using the telephone?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

15. What things do you do to help yourself continue to travel (go places or drive a car)?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

15a. Do you use a seatbelt when driving or riding in a car?

1. Yes
2. No

16. How do you take care of shopping for your personal items, medications, or groceries?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

17. What things do you do to help yourself handle your own money?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

18. How many different medications, prescription and nonprescription, do you take in one day? _____

18a. What things do you do to help yourself manage your own medications?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

19. What things do you do to manage preparation of your own meals?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

20. What things do you do to help yourself manage your own feeding?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

20a. Have you tried to improve your nutritional habits (diet) in the last 12 months?

1. Yes (--> go to 20b)
2. No (--> go to 21)

20b. What things have you done to improve your nutritional habits?

1. Altered calories
2. Altered sodium
3. Altered fat/cholesterol
4. Altered caffeine
5. Altered fiber
6. Vitamins/minerals
7. Other (specify) _____

21. What things do you do to help yourself care for your teeth?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

21a. Have you had a dental exam in the last 12 months?

1. Yes
2. No

22. What things do you do to help yourself continue your own bathing?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
23. What things do you do to help you continue your own grooming?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
24. What things do you do to help you continue dressing yourself?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
25. Do you have any problems with incontinence (holding your water or leaking urine or stool)?
1. Yes (--> go to 25a)
 2. No (--> go to 25b)
- 25a. How do you take care of your incontinence?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
- 25b. What things do you do to manage going to the toilet by yourself?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
26. What things do you do to help yourself get around the house or in and out of bed and chairs?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
- 26a. Do you exercise at least 3 times/week for 20-30 minutes?
1. Yes
 2. No

27. Consider all the day-to-day activities we have just discussed (show subject list of activities). Please tell me who supplies you with information on how to care for these activities? (Mark all that apply)

- | | |
|--------------------------------------|-----------------------------|
| 1. Primary lay relationships | 3. Professional health care |
| 1. Family | |
| 2. Friends | |
| 3. Self | 4. Media |
| 2. Secondary lay relationships | 5. Other (specify) _____ |
| 1. Local community | |
| 2. Organized peer support groups | |
| 3. Social organizations/associations | |

28. What type of media, systems, or processes help you manage these day-to-day activities? (Mark all that apply).

- | | |
|---------------------|--|
| 1. Printed Media | 3. Systems |
| 1. Newsletters | 1. Log books/health diaries |
| 2. Newspapers | 2. Telephone reminders |
| 3. Pamphlets | 3. Medication reminders |
| 4. Magazines | 4. Schedules/calendars |
| 5. Books | |
| 6. Advertisements | |
| 2. Electronic Media | 4. Processes |
| 1. Television | 1. Professional health care instructions |
| 2. Radio | 2. Lecture/seminars |
| 3. Videos | 3. Demonstrations |
| 4. CAIs | |
| 5. Online services | 5. Other (specify) _____ |
| 6. Advertisements | |

PART III: PHYSICAL

We have just completed part two of the interview and are now beginning part three. These next questions are about physical conditions common to older adults. I will first ask you if you have a condition. If you answer yes, then I will ask what you do to take care of that condition. If you answer no, I may ask how you prevent that condition or I may proceed to the next question.

29. Do you have trouble hearing things?

1. Yes (--> go to 29a)
2. No (--> go to 30)

29a. How do you deal with these problems?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

30. Do you have tinnitus or ringing (buzzing) in your ears?

1. Yes (--> go to 30a)
2. No (--> go to 30b)

30a. How do you deal with this problem?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

30b. Have you had your hearing checked in the last 12 months?

1. Yes
2. No

31. Do you have trouble seeing things (foggy or blurred vision)?

1. Yes (--> go to 31a)
2. No (--> go to 31b)

31a. How do you deal with these problems?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

31b. Have you had your vision checked in the last 2 years?

1. Yes
2. No

32. Do you have any problems with your sinuses (nasal congestion or head colds)?

1. Yes (--> go to 32a)
2. No (--> go to 33)

32a. How do you deal with these problems?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

33. Do you experience any problems with coughs or respiratory flu?

1. Yes (--> go to 33a)
2. No (--> go to 33b)

33a. How do you deal with these problems?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

- 33b. Have you obtained a "flu shot" (vaccine) in the last 12 months?"
1. Yes
2. No
- 33c. Have you ever had a "pneumovax" or pneumonia vaccine?
1. Yes
2. No
- 33d. Are your other immunizations up-to-date (Tetanus, Diphtheria)?
1. Yes
2. No
34. Do you have arthritis (stiff, sore, or swollen joints)?
1. Yes (--> go to 34a)
2. No (--> go to 35)
- 34a. How do you deal with these problems?
1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____
35. Do you have osteoporosis (brittle bones)?
1. Yes (--> go to 35a)
2. No (--> go to 35b)
- 35a. How do you deal with these problems?
1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____
- 35b. Do you take calcium supplements?
1. Yes
2. No
36. Have you fallen in the last 12 months?
1. Yes
2. No
- 36a. What do you do to prevent falls?
1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____
37. Do you have heart disease (irregular heart beat, fluid on the heart, or a history of chest pain, angina pectoris, or heart attack)?
1. Yes (--> go to 37a)
2. No (--> go to 37b)

- 37a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
- 37b. Have you had your cholesterol checked in the last 5 years?
1. Yes
 2. No
38. Do you currently use any tobacco products (cigarettes, cigars, pipes, dip, chew)?
1. Yes (--> go to 38a)
 2. No (--> go to 39)
- 38a. Have you tried to quit using them?
1. Yes (--> go to 38b)
 2. No (--> go to 39)
- 38b. What things did you do to help you quit using tobacco?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
39. Do you drink more than two (2) alcoholic drinks in one day?
1. Yes (--> go to 39a)
 2. No (--> go to 40)
- 39a. Have you tried to decrease or quit drinking them?
1. Yes (--> go to 39b)
 2. No (--> go to 40)
- 39b. What things did you do to help you decrease or stop drinking?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
40. Do you have hypertension (high blood pressure)?
1. Yes (--> go to 40a)
 2. No (--> go to 40b)
- 40a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____

- 40b. Have you had your blood pressure checked by a health care professional in the last 2 years?
1. Yes
 2. No
41. Do you have problems with the circulation in your legs and feet (varicose veins, swelling, or cold legs and feet)?
1. Yes (--> go to 41a)
 2. No (--> go to 42)
- 41a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
42. Do you have diabetes (sugar diabetes or sugar in the blood)?
1. Yes (--> go to 42a)
 2. No (--> go to 43)
- 42a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
- 42b. Have you had your diabetes checked by a health care provider in the last 12 months?
1. Yes
 2. No
43. Do you experience any problems with upset stomach or heartburn?
1. Yes (--> go to 43a)
 2. No (--> go to 44)
- 43a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
44. Do you experience any problems with upset bowels, such as constipation or diarrhea?
1. Yes (--> go to 44a)
 2. No (--> go to 44b)
- 44a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____

- 44b. Have you had your stools checked for blood (hemoccult, guaiac, or fecal occult blood testing) in the last 12 months?
1. Yes
 2. No
45. Do you experience any problems with physical aches or pains?
1. Yes (--> go to 45a)
 2. No (--> go to 46)
- 45a. How do you deal with these problems?
1. Functional interventions
 2. Physical interventions
 3. Mental interventions
 4. Social interventions
 5. Other (specify) _____
46. Have you had a physical exam in the last 12 months?
1. Yes
 2. No
- 46a. Have you had any type of cancer screening in the last 12 months?
1. Yes (--> go to 46b)
 2. No (--> go to 46c)
- 46b. What type of cancer screening?
- | | |
|-------------|--------------------------|
| 1. Mouth | 5. Testicular |
| 2. Skin | 6. Prostate |
| 3. Breasts | 7. Colorectal |
| 4. Cervical | 8. Other (specify) _____ |
- 46c. Do you perform monthly (males) self testicular exams or (females) self breast exams?
1. Yes
 2. No
47. Consider all the physical conditions we have just discussed (show subject list of conditions). Please tell me who supplies you with information on how to care for these conditions? (Mark all that apply)
- | | |
|--------------------------------------|-----------------------------|
| 1. Primary lay relationships | 3. Professional health care |
| 1. Family | |
| 2. Friends | |
| 3. Self | 4. Media |
| 2. Secondary lay relationships | 5. Other (specify) _____ |
| 1. Local community | |
| 2. Organized peer support groups | |
| 3. Social organizations/associations | |

48. What type of media, systems, or processes help you manage these conditions?
(Mark all that apply)

- | | |
|--|--|
| <p>1. Printed Media</p> <ul style="list-style-type: none"> 1. Newsletters 2. Newspapers 3. Pamphlets 4. Magazines 5. Books 6. Advertisements | <p>3. Systems</p> <ul style="list-style-type: none"> 1. Log books/health diaries 2. Telephone reminders 3. Medication reminders 4. Schedules/calendars |
| <p>2. Electronic Media</p> <ul style="list-style-type: none"> 1. Television 2. Radio 3. Videos 4. CAIs 5. Online services 6. Advertisements | <p>4. Processes</p> <ul style="list-style-type: none"> 1. Professional health care instructions 2. Lecture/seminars 3. Demonstrations |
| | <p>5. Other (specify) _____</p> |

PART IV: MENTAL/SOCIAL

We have just completed part three of the interview and are now ready to begin part four. This is the last part of the interview. I will be asking you questions about specific feelings you may experience. I am interested in how you take care of yourself when you experience these feelings. I will also ask what things you do to maintain relationships with family and friends and within the community.

49. Do you ever experience feelings of anxiety (extreme worrying, nervousness, or panic attacks)?

- 1. Yes (--> go to 49a)
- 2. No (--> go to 50)

49a. How do you deal with these feelings?

- 1. Functional interventions
- 2. Physical interventions
- 3. Mental interventions
- 4. Social interventions
- 5. Other (specify) _____

50. Do you ever experience feelings of depression (feeling down, blue, or sad)?

- 1. Yes (--> go to 50a)
- 2. No (--> go to 51)

50a. How do you deal with these feelings?

- 1. Functional interventions
- 2. Physical interventions
- 3. Mental interventions
- 4. Social interventions
- 5. Other (specify) _____

51. Do you ever experience feelings of confusion (forgetfulness or disorientation)?

1. Yes (--> go to 51a)
2. No (--> go to 52)

51a. How do you deal with these feelings?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

52. Do you ever experience feelings of isolation (loneliness and separation)?

1. Yes (--> go to 52a)
2. No (--> go to 53)

52a. How do you deal with these feelings?

1. Functional interventions
2. Physical interventions
3. Mental interventions
4. Social interventions
5. Other (specify) _____

53. What things do you do to build or maintain relationships with your family and friends?

1. Go places
2. Share experiences
3. Acquire new knowledge/skills
4. Volunteer
5. Join groups/clubs

54. What things do you do to build or maintain relationships within the community?

1. Go places
2. Share experiences
3. Acquire new knowledge/skills
4. Volunteer
5. Join groups/clubs

55. Consider all the feelings and relationships we have just discussed (show subject list of feelings and relationships). Please tell me who supplies you with information on how to take care for these feelings and relationships? (Mark all that apply)

- | | |
|--------------------------------------|-----------------------------|
| 1. Primary lay relationships | 3. Professional health care |
| 1. Family | |
| 2. Friends | |
| 3. Self | 4. Media |
| 2. Secondary lay relationships | 5. Other (specify) _____ |
| 1. Local community | |
| 2. Organized peer support groups | |
| 3. Social organizations/associations | |

56. What type of media, systems, or processes help you manage these feelings and relationships? (Mark all that apply)

1. Printed Media

1. Newsletters
2. Newspapers
3. Pamphlets
4. Magazines
5. Books
6. Advertisements

3. Systems

1. Log books/health diaries
2. Telephone reminders
3. Medication reminders
4. Schedules/calendars

2. Electronic Media

1. Television
2. Radio
3. Videos
4. CAIs
5. Online services
6. Advertisements

4. Processes

1. Professional health care instructions
2. Lecture/seminars
3. Demonstrations

5. Other (specify) _____

We are now finished with the interview. I would like to thank you for your willingness to participate in this study. The information you have shared with me has been a valuable contribution. Thank you.

Annual Household Income

- 1. Less than \$10,000**
- 2. \$10,000 - \$25,000**
- 3. \$25,000 - \$50,000**
- 4. \$50,000 - \$75,000**
- 5. More than \$75,000**

Day-to-Day Activities

- 1. Do heavy housework**
- 2. Use telephone**
- 3. Travel**
- 4. Shop**
- 5. Handle money**
- 6. Handle medications**
- 7. Prepare meals**

- 8. Feed self**
- 9. Care for teeth**
- 10. Bathe self**
- 11. Groom self**
- 12. Dress self**
- 13. Toilet by self**
- 14. Manage incontinence**
- 15. Move about by self**

Common Physical Conditions

- 1. Hearing problems**
- 2. Tinnitus**
- 3. Vision problems**
- 4. Sinus problems**
- 5. Cough/respiratory flu**
- 6. Arthritis**
- 7. Osteoporosis**
- 8. Falls**

- 9. Heart problems**
- 10. Tobacco use**
- 11. Alcohol use**
- 12. High blood pressure**
- 13. Circulation problems (legs/feet)**
- 14. Diabetes**
- 15. Upset stomach**
- 16. Upset bowels**
- 17. Pain**

Feelings and Support Systems

- 1. Anxiety**
- 2. Depression**
- 3. Confusion**
- 4. Isolation**
- 5. Family/friend relationships**
- 6. Community relationships**

APPENDIX F
COVER LETTER
(WITH ATTACHMENTS)

2 November 1995

FROM: Kathryn A. Dillow
6001 S. Yosemite St., Apt. D-207
Greenwood Village, CO 80111

SUBJECT: Review of New Research Instrument

Dear Colleague

1. I have developed the attached interview questionnaire for use in my masters thesis. This questionnaire was developed using literature on multidimensional assessment and care of the elderly. I am requesting your assistance in establishing its content validity. Please review the questionnaire for clarity and order and determine if the questions address the concepts of self-care behaviors, self-care information suppliers, and self-care management tools within each of the selected dimensions.
2. A study summary (attach. 1) provides general information about my thesis project. An item index (attach. 2) provides a quick reference to the variables being assessed and the corresponding item numbers. These have been provided on a separate sheets to allow for easy reference as you conduct your review. Please feel free to write on the questionnaire or provide comments on the backside of the pages.
3. I request that you complete your review of the questionnaire and the credentials information sheet (attach. 4) by 17 November 1995. Once these have been completed please telephone me and I will be glad to pick them up from your office. I thank you for your time and effort in reviewing my instrument. Information on the performance of the instrument and study findings will be shared with reviewers upon request. If you have any questions or wish to discuss this instrument I can be reached at (303) 721-8306. Once again, thank you for your assistance.

Sincerely,

Kathryn A. Dillow, RN, B.S.N.

Attachments:

1. Study Summary
2. Item Index
3. Instrument: Identification of Self-Care Behaviors,
Information Suppliers, and Management Tools
4. Credentials Information Sheet

Attachment 1: Study Summary

Study:

Identification of Self-Care Behaviors, Self-Care Information Suppliers, and Self-Care Management Tools of Community-Based US Military Retirees

Purpose:

To identify self-care behaviors practiced by community-based military retirees ages 65 and older, their suppliers of self-care information, and their self-care management tools.

Questions:

1. What are the self-care behaviors practiced by community-base military retirees ages 65 and older?
2. Who are the suppliers of self-care information to community-based military retirees ages 65 and older?
3. What are the tools of self-care management used by community-based military retirees ages 65 and older?

Key Definitions:

Self-care behaviors: "the activities individuals, families and communities undertake with the intention of enhancing health, preventing disease, limiting illness, and restoring health. These activities are derived from technical knowledge and skills from the pool of both professional and lay experience. They are undertaken by laypeople on their own behalf, either separately or in participative collaboration with professionals" (WHO, 1984).

Supplier: any source that generates or transmits self-care information. This may include, but is not limited to, the professional community, media, friends, family members, or even self.

Tool: any instrument or system that is used to manage self-care. Centers primarily around printed and electronic media forms (i.e. a home health book, pamphlets, or video). It also includes various reminder and tracking systems (i.e. medication reminders or log books) and processes (i.e. lectures/seminars, demonstrations, health care providers instructions).

Attachment 2: Item Index

Study:

Identification of Self-Care Behaviors, Self-Care Information Suppliers, and Self-Care Management Tools of Community-Based US Military Retirees

Instrument:

Identification of Self-Care Behaviors, Information Suppliers, and Management Tools

Dimensions and Corresponding Item Numbers of Items Addressed in Structured Interview Questionnaire

Dimensions	Item numbers
Demographics	3 - 11
Financial	10, 12, 12a
Self-Care Behaviors	
Functional	13 - 26
Physical	29 - 46
Mental/Social	49 - 54
Health Promotion/Disease Prevention	15a, 18, 20a - b, 21a, 26a, 30b, 31b, 33b - d, 35b, 37b, 38a, 39a, 40b, 42b, 44b, 46, 46a - c
Suppliers	27, 47, 55
Tools	28, 48, 56

**Attachment 3: Instrument: Identification of Self-Care Behaviors, Information Suppliers,
and Management Tools**

(See Appendix E for instrument)

Attachment 4: Credentials Information Sheet**Present position/title:**

Years of experience in care of elderly:

Primary responsibilities:

Do you desire information on ...

performance of the instrument?	Yes	No
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study findings?	Yes	No
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